



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 171462

**TO: David Fox
Location: REM/2C09/2C18
Art Unit: 1638
Tuesday, November 29, 2005
Case Serial Number: 10/808979**

**From: Barb O'Bryen
Location: Biotech-Chem Library
Remsen 1a69
Phone: 571-272-2518**

barbara.obryen@uspto.gov

Search Notes

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CRFE

Access DB# 171462

441

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAVID FOX Examiner #: 65401 Date: 11/14/05
Art Unit: 1638 Phone Number ~~30~~ 20795 Serial Number: 10/808,979
Mail Box and Bldg/Room Location: 2C09 2C18 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: 05 02/2003

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

RECEIVED
NOV 14 2005
TECHNICAL DIVISION
(STIC)

Please do
interference sequence
search

for SEQ ID NO: 18

MA 6999

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1 wa

03P

ME

THANK YOU

11/29/05
F11.

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November 2005

Published_Applications_Nucleic_Acid_and_Published_Applications_Amino_Acid database searches now generate two sets of results each. The Published_Applications databases have been split into two parts to reduce the amount of time required for their daily updates. This results in more machine time being available for processing searches.

Newly published applications will appear in the Published_Applications_New databases; older published applications make up the Published_Applications_Main databases.

Searches run against Nucleic Acid Published_Applications produce two sets of results, with the extensions **.rnpbm** (Published_Applications_NA_Main) and **.rnpbn** (Published_Applications_NA_New). Searches run against Amino Acid Published_Applications produce two sets of results, with the extensions **.rapbm** (Published_Applications_AA_Main) and **.rapbn** (Published_Applications_AA_New).

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OM nucleic - nucleic search, using sw model

Run on: November 24, 2005, 20:26:32 ; Search time 1168 Seconds
(without alignments)

10651.673 Million cell updates/sec

Title: US-10-808-979-18

Perfect score: 6999

Sequence: 1 gcatggcaatggaatgt.....gacgttttagacatgcaata 6999

Scoring table: IDENTITY NUC

Gapop 10.0 , Gapext 1.0

Searched: 1303057 seqs, 888780828 residues

Total number of hits satisfying chosen parameters: 2606114

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

Issued Patents NA:*

- 1: /cgn2_6/ptodata/1/ina/1 COMB.seq.*
- 2: /cgn2_6/ptodata/1/ina/5 COMB.seq.*
- 3: /cgn2_6/ptodata/1/ina/6A COMB.seq.*
- 4: /cgn2_6/ptodata/1/ina/6B COMB.seq.*
- 5: /cgn2_6/ptodata/1/ina/H COMB.seq.*
- 6: /cgn2_6/ptodata/1/ina/PCFUS COMB.seq.*
- 7: /cgn2_6/ptodata/1/ina/PP COMB.seq.*
- 8: /cgn2_6/ptodata/1/ina/RE COMB.seq.*
- 9: /cgn2_6/ptodata/1/ina/backfiles1.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Match	Query Length	ID	Description
1	2624.6	37.5	6918	2	US-07-783-705A-13
2	2138.6	30.6	8814	3	US-10-808-807-18
C 3	1035.4	14.8	8625	3	US-08-980-832-1
C 4	1035.4	14.8	8625	3	US-08-920-923B-1
C 5	1035.4	14.8	11233	3	US-08-980-832-27
C 6	1035.4	14.8	11233	3	US-08-920-923B-27
7	861.4	12.3	1479	3	US-10-808-807-7
8	826.2	11.8	1479	2	US-07-783-705A-10
9	713.4	10.2	1518	2	US-08-095-726-7
10	713.4	10.2	1518	2	US-08-096-043-7
11	713.4	10.2	1518	2	US-08-096-623A-7
12	708.4	10.1	1522	2	US-08-095-726-9
13	708.4	10.1	1522	2	US-08-096-043-9
14	708.4	10.1	1522	2	US-08-096-623A-9
15	619.4	8.8	1482	3	US-08-660-645A-6
16	619.4	8.8	1482	3	US-08-298-718-6
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19	515.6	7.4	1198	2	US-08-095-726-5
20	515.6	7.4	1198	2	US-08-096-043-5
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22	515.6	7.4	1198	2	US-08-096-623A-5
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Sequence 13, Appl
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Sequence 1, Appl
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Sequence 15, Appl
Sequence 8, Appl
Sequence 11, Appl
Sequence 1, Appl
Sequence 16, Appl
Sequence 17, Appl
Sequence 9, Appl
Sequence 7, Appl
Sequence 7, Appl
Sequence 7, Appl
Sequence 7, Appl
Sequence 930, App
Sequence 1, Appl
Sequence 3, Appl

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US-10-808-807-1 906 35
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US-08-096-623A-17 947 37
US-10-808-807-9 927 38
US-07-783-705A-9 1149 39
US-08-663-310-7 2 1286 39
US-09-006-491-7 2 1286 40
US-09-335-919-7 2 1286 41
US-07-783-705A-7 909 42
US-09-902-540-930 933 43
US-08-095-726-1 4.4 308.2 44
US-08-095-726-3 4.4 308.2 45

ALIGNMENTS

RESULT 1
US-07-783-705A-13
; Sequence 13, Application US/07783705A
; Patent No. 5429939
; GENERAL INFORMATION:
; APPLICANT: Misawa, No. 5429939ihiko
; APPLICANT: Kobayashi, Kazuo
; APPLICANT: Nakamura, Katsumi
; APPLICANT: Yamano, Shigeoyuki
; TITLE OF INVENTION: DNA SEQUENCES USEFUL FOR THE
; TITLE OF INVENTION: SYNTHESIS OF CAROTENOID
; NUMBER OF SEQUENCES: 18
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Ladas & Parry
; STREET: 26 West 61 Street
; CITY: New York
; STATE: NY
; COUNTRY: USA
; ZIP: 10023
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 3.50 inch, 720Kb storage
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: N/A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/783,705A
; FILING DATE: 19911023
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 1-103078
; FILING DATE: 21-APR-1989
; APPLICATION NUMBER: JP 2-53225
; FILING DATE: 05-MAR-1990
; APPLICATION NUMBER: US 07/519,011
; FILING DATE: 19-APR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Schwadron, Janet I.
; REGISTRATION NUMBER: 33,778
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-708-1935
; TELEFAX: 212-246-5959
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 6918 base pairs
; TYPE: NUCLEIC ACID
; STRANDEDNESS: double
; TOPOLOGY: linear

483	Db	CACGCGGCTTCGTGATCCTTTGACGATATGCCCCTGCAATGACGATGCGAAGCTGCGGCGC	542
640	Qy	GGTGCGCCCTACCGTGCATCGCAATTTGGTGAACGCTGGCGATTCCTCGCGGCCATCGCG	699
543	Db	GGAGGCCCTACCAATTCATTCATTACGAGAGACATGTGGCAATACTGGCGGCGTTGCC	602
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760	Qy	TCTGAAGCGATTTGCTGAATCTCTCCGCTCGCGTGGGCTGCAGGGCTTAGTGCAGAGGCAA	819
663	Db	AATCGGGCGGTTTCTGAACCTGTCAAAACCGCATCGGCATGCAAGGATTTGGTTACGGGT	722
820	Qy	TTCCAGATCTGCACACGCGCACGACAGCGCAGACCCCGGAAGCGATCGCCATGACCAAC	879
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783	Db	CACCTTTAAACACGACGCTGTTTTCGCTCCATGCAGATGSCCTCGATTTGTTGCGAAT	842
940	Qy	GCTTACCGGAGGTGGGCAAGACTTAGTCTTCGCGCCAGGATTTGGGCCAGGCGTTT	999
843	Db	GCCTCCAGGAAGCGGCTGATTTGCTTCGATCGGTTTTCATCTGATCTTGGTCAGGCAATTT	902
1000	Qy	CAACTGCTGCAGACCTCGCGACGGTTGGCAACACACCGGTAAAGATGTGCACACAGGAT	1059
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1378	Db	TGCTGAAGCTCATCAATGAAATGGCGCGCACCAACCGCATATGCTGTGCGCGGAACTCCCCC	1437
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1600	Qy	GATTTGGTTCGCTGAAGCGCTGCATCTGCGGTTTGTGTTTCGGTGGGCTCGCGCTTCGCGGTCA	1659
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QY	1480	TGTTTCGCGTGATCGACGATCTCGCGTCTCGACCATGTCGTGCGCGAAATGCCTTG	1539
Db	1378	TGCTGAAGTCTCATCAATGAAATGGCGCGCACCAACCGATATGCTGTGCGCGAAATCGCCC	1437
QY	1540	CGGTACTGAAAGCATTTGAACATCGATGGCGGTGATCGCCGACGAAATGGAAGCGCGCGGCG	1599
Db	1438	AGGCATTTACGATCTGGCGGTGATGGCGTCAATGTTGATCAATGGAACCGCGAGCGG	1497
QY	1600	GATTTGGTTCGCTGAAGCGCTGCATCTCGCGTTTGTGTTTCGGTGGCGCTGGCGCTTGC	1659
Db	1498	CGTCTGTTGCTGAAGCACTGGGACTCGCGTTTATCTCTGTGCGCTCGCGCTGCCTCTCA	1557
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QY 1840 GCCTGTCCCGCTGGCAAAATCAGCCAGATGGTGGCGGCTTTGATTTTCCACGTGACG 1899
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Db 1858 CTTTCATCCCGTTATTTTACATCTCTCAAAAACCCCGGATTTTCGCTCGCTGGGACGC 1917
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QY 2077 TATCGCTGGTATCGCCCATTTGTGGGGATTTAAACGCCGAAACAGACATCAGCTGGAGC 2136
Db 1978 GTCACTCTGTTAGCCCACTGTGCTCTTACGGACTCTCAGTGTGAAGAGCTGCGCGC 2037
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Db 2637 CTATCAGGTACGCTTTCCCAACAACCGCTGCTGAAGCTGAACAGCGGCTACTTTTGTATAC 2696

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Db 2697 TTCTCAGCGTTTCGCTGAGGTTTACAGCGACAGTTTGGCCGCGACTTGTGGATGGATAC 2756
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Db 2877 GGGCTTTTATTTGGCAGGAATGGCGATTTGAGCCACCCGATGGTTATCGTCTCCCATAT 2936
QY 3037 GATGGATGCCACCGTGCATCAGAACGGGTATCGTTTGTCTACAGCTGCCGCTCAG 3096
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Db 3117 GCTGCGAAGAAACAGGCGCTTACCCATTCTCTGTGCGGGCAATGCCACGATTTCTG 3176
QY 3277 GCAACAGCAGCGCGGCAAGCTGCGCGGCTTGGCGCGGCTGTTTATGCGCACAC 3336
Db 3177 G---CAGCAGCGCCCTGCGCTGTAGTGATTTAGTGCGCGCTGTTCATCTCTACAC 3233
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QY 3457 GCGATTTTTCGCTGCTGTAACCCGCTGCTGTTTGGCGCGTAAAGCGCAGCAGCGCTG 3516
Db 3354 GGGCTTTTTCGCGATGCTGATCGCATGCTGTTTGTAGCCGAGCCCGCGATTCACGCTG 3413
QY 3517 GCGCGTGAATGCAACGTTTTCACCGCTCGATGCGGGTTAATTTAGCGCTTTTACGCGG 3576
Db 3414 GCGGGTTATGACGCGTTTATGCTTTTACCTGAAGATTTAATTTGCCCGCTTTTATGCGGG 3473
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Db 3474 AAAAAGCTCAGCTCAGCGATCGGCTAGCTATTCTGAGCGGCAAGCGCTGTTCCGGTATT 3533
QY 3637 TGAAGCGCTGCGCGCTGTTGAATTTCTGCGAACCCAGGGAAGAAATAAGAACGCACT 3696
Db 3534 AGCAGATTGCAAGCAATTATGACGACTCATCTTTAAAGAGCACTACATGAACCAACT 3593
QY 3697 TATGTAATGGCGCAGGCTTTTGGCGCTGCGCTGCGATTCGCTGCAAGGCGCGGCG 3756
Db 3594 ACGGTAATTTGGTCAGGCTTCGTTGGCTGGCACTGGCAATTCGTCTACAGCTGCGGG 3653
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Db 3654 ATCCCGCTCTTACTGCTTGAACCAACGTTGAATAACCGGGCGGCTTATGCTCTACGAG 3713
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Db 3714 GATCAGGGGTTTACCTTTGATGCGGCGGACGGTTATCACCGATCCCGAGTCATGAA 3773
QY 3877 GAGTTTTCAGCTGCGAGGAAATCGCTCAGCGATTAATGCTCAGAGCTGATGCGGTAACG 3936

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Qy	3937	CCCTTCTATCGCTGCTGGGAAGATGGCAACAGCTTGATTAACGACAAATATAGCCG	3996	5017	AGCGCTGGTTCCGCGCCGATAAACCGGATGCGGATATCAGCAATCTCTATCTGGTGGGT	5076
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Qy	3997	CTGCTGGAGCAGATCGCAGCTTCATCCGCAAGATGTAGAAGCTATCGTCAATTT	4056	5077	GCCGGTACGATCCAGGCGCGCGCTGCCGCGTGCATCGGTTCGGCCAAAGCCACCGCC	5136
Db	3894	CGGCTCGAAGCGAGATTCAGCAGTTTAATCCCGCGATGTGAAAGTTATCGTCAGTTT	3953	4974	GACGACGCAATCCCGCGCAGGCAATCTTGCGGTCATCGGCTCGGCAAAAGCAGCA	5033
Qy	4057	CTTGCTTATTCAGCTGAAGTATTAGAGAGGGTTATCTGAAATCTCGGCAAGTTCGGTTT	4116	5137	AGGCTGATGCTGGAAGATCGCCGCAATGAATTCGACAGCCTTTACTTTAGAGCAAGTAACG	5196
Db	3954	CTGCACTATTCACGCGCGTGTAAAGAAAGCTATCTAAAGCTCGGTACTGTCCTTTT	4013	5034	GGTTTGATGCTCGAGGATC---TGATTTGAATAATCCGTCGTTACTCAATCATCGCGTCG	5090
Qy	4117	CTGAGGTGCGTGACATGCTGCGGTGCGCGCGAGTTGGGACGTCTGCAAGCATGGCGC	4176	5197	AAACCATGGGCTGGGCTCGAAGATTTCCGACCGCGCCCAAGCTGTTTGTATGACACCGA	5256
Db	4014	TTATCGTTACAGACATGCTTCGCGCGCACCTCAACTGCGCAAACTGCAAGGCATGGAGA	4073	5091	AAACGATGGCAGTTGGCTCGAAAGATTTTGGCAGAGCCTCAAAGATTTATTTGATGCAAAA	5150
Qy	4177	AGCGTCTACAGCATGGTGGCAAAATTTAATTCAGGACGATCATCTGGTCAAGCGTTTCC	4236	5257	CGCGCGCAGCAGCTGATGCTGTATGCGTGTGTGCTCACTGCGATGATGTGATTTGATG	5316
Db	4074	AGCGTTTACAGTAAGGTTCAGTATACATCGAAGATGAACATCTGGCGCAGGCGTTTCT	4133	5151	CCGCGCGCAGCGTACTGATGCTCTACGCTGTGTGCGCCATTTGTGACGATGTTATTGACG	5210
Qy	4237	TTCCACTCATTTGCTGGTGGCGGTAACTCTTTTGGCAACGTCATCGATCTATACCTTAAT	4296	5317	GGCAAAACGCTGGCGGAAGCGGCAAGCAGCATGCCGTGCAAGACGCGCAGGCAACGATGC	5376
Db	4134	TTCCACTCGCTGTGTGGTGGCGCAATCCCTTCGCCACCTCATCCATTATATAGTTGATA	4193	5211	ATCAGACGCTGGGCTTTAGGCGCCGCGAGCTGCCCTTACAAACGCGCCCAACACGCTCGA	5270
Qy	4297	CATGCGCTGAGCGTGAATCGGCGGTGTGTTTCCGCGCGCGGCAACCGCGCGCTGGTG	4356	5377	AGCATCTCAAAATTTGAAACCCGCGCGCCTACAGCGCGCGCACATGGATGAAACCGCGCT	5436
Db	4194	CACGCGCTGAGCGTGAAGTGGGCGTCTGCTTTCCGCGTGGCGGCAACCGCGCATAGTT	4253	5271	TGCAACTTGAGATGAAACCGCGCAGGCTATGCGAGGATCGCAGATGCAACACCGCGCT	5330
Qy	4357	CAGGGCATGGCGACTGTTTCGAGGACTTGGCGGCGAGCTGTTACTGAATGCGGAAGTG	4416	5437	TTAGGCGCTTACAGGAAGTGGGATCATTTACCAGCTGCGCAACAACTGGCGTTTGTATC	5496
Db	4254	CAGGGATGATAAAGCTGTTTCAGGATCTGGTGGCGAAGTCGTGTTTAAACGCGCAGATC	4313	5331	TTGCGGCTTTTACGGAAGTGGCTATGGCTCATGATATCGCCCGGCTTACGCGTTTGTATC	5390
Qy	4417	AGCCAGCTGGAACACGCGCAATCGCATTTAGCGGCTTCAGTTAGAGGCGGACGACGC	4476	5497	ATCTGGAAGCTTTCGCTATGATGACGCAACGAAACATTTACGAGCTTCGATGCAACGC	5556
Db	4314	AGCCATATGGAACGACAGGAACMAAGTTGAAGCGCTGCATTTAGAGGAGCGTGCAGG	4373	5391	ATCTGGAAGCTTTCGCCATGGATGTACGCGAAGCGCAATACAGCCAACTGGATGATACGC	5450
Qy	4477	TTGATGCCCGCGCTGTGGCTCCAAATGCCGAGTGGTGTGATACCTACGACAAATGCTTT	4536	5557	TGGGTTTACTGCTATCAGCTCGGGGCGTGGTGGTTTGTATGATGGCGCGGTAACTGGCG	5616
Db	4374	TTCTGACGCAAGCGTCCGCTCAAAATGACAGTGGTTCATACCTATCGCACCTGTTA	4433	5451	TGCGCTATTGCTATCACTGTCAGGCGTTGTCCGCTTGATGATGGCGCAAAATCATGGCG	5510
Qy	4537	GCGCACCATCGCTGGCAATGAACGTCGCACATCGCTGAGCTGAGCTAGCGCATGAGCAAC	4596	5617	TGCGGACCAAGCGGTGCTCGATCAGCCTGCGATTTAGGACTGGGCTTCCAGCTCACTA	5676
Db	4434	AGCCAGCACCTTCCGCGGTAAAGCAGTCCAAACAACTGCAGACTAAGCGCATGAGTAAC	4493	5511	TGCGGATTAACGCCACGCTGAGCGCGCTGTGACCTTGGCTGGCATTTTCACTGACCA	5570
Qy	4597	TCGCTGTTTGTACTCTATTTTGGCTGAATCAGCGCGCATGAACAGCTCGCGCACCAACC	4656	5677	ACATTCGCGCGCATTTGTAGAAAGATGCGGAAATGGTCCGCTCTATCTGCCGCAATCTCT	5736
Db	4494	TCTCTGTTTGTCTCTATTTTGGTTGAAATCACCATCATGATCAGCTCGCGCATCACAG	4553	5571	ATATTGCTCCGATATTGTGACGATGCGCATGCGGCGCGCTGTTATCTGCCGCGCAAGCT	5630
Qy	4657	GTCTGTTTGGCCGCGTATPCGTGATGTGATGATGATGATTTTCAACAGCAGCCAGCTG	4716	5737	GGCTCGATCAGCGCGGATTTACGCGCGGATACGCTGACTGCACCGCAACATCGGTGACGCG	5796
Db	4554	GTTTGTTCGCGCGGTTACCGCGAGCTGATTGACGAAATTTTAAATCATGATGGGCTC	4613	5631	GGCTGGAGCATGAAGTCTGAAACAAAGAGAAATTTATGCGGCACCTGAAAAACCGTCAGGCG	5690
Qy	4717	GCAGACGATTTTCACTTTACTTCAACGCGCCCTGACGACGATCCGTCTGCTGGACCG	4776	5797	TCGCTCCTCCTGCGCAGCGGTTTATGTCGAGGCGGAAACCTTATTATCACTCGCGCGCAT	5856
Db	4614	GCAGAGACTTCTCACTTTATCTGACGCGCCCTGTGTCAAGGATTCGTCACTGGCGCCT	4673	5691	TGAGCGGATTCGCGCGCTGTTTGGTGAGAGAACGAAACCTTACTATTCTCTGCGCACAG	5750
Qy	4777	CCCGCTGCGCAGCTTTATGTTGTAGCGCGGTGCGCATCTCGGCACCGCTGACATC	4836	5857	CCGCTTTTACCGGGTTTACCGCTCGCTCGGCTGGGCGCATTCGCTACGGCTCGCGCGGTTT	5916
Db	4674	GAAAGTTGCGCGAGTTACTATGTTGTGGCGCGGTGCGCATTTTGTCTTATCTGGAGCAGC	4733	5751	CCGCGCTGGCAGGTTGCCCTCGCTTCCGCTGGGCAATTCGCTACGCGCAAGCAGGTTT	5810
Qy	4837	GACTGGCAACAGGAAGCACCGCGCTTGGCGATCGAAATTTTGTCTTATCTGGAGCAGC	4896	5917	ATCGGAAATGCGGCTCAAAAGTTTCAGCAACCGCGGTGTCAGCGCTGGGATTCACGCGAGC	5976
Db	4734	GACTGGACGGTTGAGGGGCCAAAACACTACGCGACCGTATTTTGTGCTTACCTTGAGCAGC	4793	5811	ACCGGAAATAGGTGTCAAAAGTTGAAACAGCGCGGTGAGCAAGCTGGGATCAGCGGCGAGT	5870
Qy	4897	TACATGCGCGGATTAAGTACGACCAATTAAGTACACAGATGTTTACCGGTTTGAATTTT	4956	5977	GCACCATGATAAGGTGAAAAACTCGCGCTGCTGTGTGAAAGGGGCGAGGTTTGGCGCATCACTT	6036
Db	4794	TACATGCTGCTTACGAGAGTCACTGCTGTCAGCAGCCGATGTTTACCGCGTTTGAATTTT	4853	5871	CAACGACACCGCGGAAAAAATTAACGCTGCTGTGCGCGCTCTGTGTCAGGCGCTTACTT	5930
Qy	4957	CGGCACAGCTGATGCCCATCAAGGCTCGGCGTTTTCGCTGGAGCGGATTTTTCAGCGCAA	5016	6037	CGCGTGTGCTCGTCTTGAAACCGCGTCCGCGTGGTCTGTGGCAGCGTCTCGTTGATTTT	6096
				5931	CCCGGATGCGGCTCATCTCTCCGCGCTGCGCATCTCTGGCAGCGCCGCGC-----TCT	5984

QY	1509	TGCACCGATATGCTGTGCGCGAATCGCTGCGGTACTGAAGCATTGAACATCGATGCC	1568	QY	2589	TGCGTCAATTGCGAGCCAACTGAATAGCTGTGCTGGAGAGCGATGCGCATCCGCGCAG	2648
Db	3502	ACCTGTGTTTCCCGCCGCTGAAAGCCCGGTGCTGATCAGCTCCATGACCGCGCGCG	3561	Db	4488	TAAAGCAGCGTCAATCGACGCTTGCTGTATTAATGCTGGAGTGGCGACGCGCCGCG	4547
QY	1569	GTGATCGCGACGAAATGAAGCGGGCGGATGGTGGCTGCTGAAGCGCTGCAATCGCG	1628	QY	2649	GAAATCATACCTGTGCTGTTTCAATCAGCGATCTCAGCGCCGAAACAACTCTGCTGCTGC	2708
Db	3562	GCGCGCCAGAGACATTAAACCGTCATCTGGCCAGCGCGGCAACCCCTTGGCTGGCG	3621	Db	4548	GAAACCACTGTGCTTCTTCAACCAACGATATCAGCGCAGCCAGCAGCGCTGCTGG	4607
QY	1629	TTTGTTTGGTGGCTGCGCTTGGCGGTCAATCGTGAAGCCGGATTCGCTTGGCGGTG	1688	QY	2709	AACCGCTGATTACCGTGGTGGTTCAGGTATCAGGTGGTTCCTGCTGCTGCGCGCGCA	2768
Db	3622	ATGGCGTCTGGTCCAGCGCTGGCGCTGGAGACGGCGCAGCAGCGGCTGGATGCC	3681	Db	4608	CGCGCTGTGGCCCATCGCTGGGACGGGTACGAGTCCACCTTTCGGAACGTGTCGCGCA	4667
QY	1689	ATGCCCTTCGTTTGCACAGGATGACAAAGCGCTGAAAGCTTTTTCAGGCCACGCGAT	1748	QY	2769	ATCTGACCGGGATTAATGTTCCATCGCATCAGGGGATTTTGGCCGCCCATCTTTACGCGG	2828
Db	3682	CAGTACGCCATATCGCCCGCGAGCTGCGCTGCTG-----GCT	3720	Db	4668	CCCTGCTACAGGCTACCTGACCATCACCTCCAGCGTTTGGCCCAAGCGATGCGCGGG	4727
QY	1749	ATCTATGATCGCATATCGTCTGCTCAGCGGAGCTGATCTCAAAACACGCGCGGGGTTT	1808	QY	2829	CGATGGGTGACGATCTGTGGGACAAACACAGCGGTACAAACAGGTAAACCCACGCGGTGA	2888
Db	3721	AACCTTGGCGCGGCGAGATCCGGGTGCGCAGGGGCTGGACTACGCCCGCGCGCGGTG	3780	Db	4728	TGATGAAGAGAAATTTGCTGACAAACGTCACCGGTGTACGGGTGAGCGGGCAGGAAGTAA	4787
QY	1809	AATTTGACGAGCGCGCGGATTAATCATAGTGCCTGTGCGCTGTGGCACAATAACGCGAG	1868	QY	2889	CGCTGGCGGATGCGCGTGAACCTTGTGCGCAAGTGGTGTGATGCTGCGGGCTCGGC	2948
Db	3781	GACATGATCAGCGCGAGCGGTTAAATTTGTCATCTGAACCCGCTG-----CAG	3828	Db	4788	CCCTCAGCCAGCAGACACGCTTTTACCGCGGGCGGTGATGATGGCGCGGCTATCAGC	4847
QY	1869	ATGCTGCGGCTTTTGAATTTTCCAGTCAACAACTGCCGCCCTGCTATCAGCGCGTGGG	1928	QY	2949	CGACGCCACATCTGCAGCTGGGTTATCAGGTGTTTCTTGGACAAGAGTGGCAGCTGGCGC	3008
Db	3829	GAGGCGCTCCAGCGCGCGCGATCGCGACTGCGGCGGATCTCAACGCCATTGGCGCAG	3888	Db	4848	CCTCGCGCACTCAGCATTTGCTATCAGCGCTTATCGCCAGGAGTGGCACTGACCG	4907
QY	1929	CCACTCGCGCCCGGTTTCTCTGCGCGCTCCATGCGCCCTGGCGAGCGCTGCGTCAG	1988	QY	3009	AGCGCACCGGCTGCGAGCAGCGATCCTGATGATGCCACCGCTCGATCAGAACGCGGTT	3068
Db	3889	CTGGTGGCGACCTGCGGTACCGGTACCGGTGGTTAAAGAG--GTGGGCGCGGATCTCC	3946	Db	4908	CGCCCCACGGTTAACGCGCCGATCCTGATGATGCCCGCTCGCCAGGGCAACGGCT	4967
QY	1989	CCGGTGGTTATGCTGCTGGTACGCTGCAAGGCCATCGCTTCCGGCTGTTTTCGAT	2048	QY	3069	ATCGTTTCTTACAGCTGCGCTCAGCGCGATCGGCTATTGATTGAGATACCCATT	3128
Db	3947	CGGACGTTGCTGCCGACTCGCGACGTCCGGCTGGCGATGATCGACATTG-----	3997	Db	4968	ACCGCTTGTCTATACCTTCCGCTCAGCGCGACACCTGTCTATCGAAGACACGCACT	5027
QY	2049	CTGGCGAGCGTGGCGAGCTGCGCTATCGTGGTATCGCTCCGCAATTGTGGGGATTA	2108	QY	3129	ACGTTAACAGCCCGGCTGGCGGAGAACACCGCTCGTCAGACATCGCGCATATGCGCA	3188
Db	3998	CCGGCGCGCGGAAACAGCTGGCGCGCGGTGGAAGCTGAACGCGCCCCG-----	4047	Db	5028	ACATTCAGCGCCGACGCTCGACCGCATTCAGCCCGCGCGGATTCGCGATTACGCC	5087
QY	2109	AAGCGCAACAGACGATCAGCTGAGCTCGCTGGCGCGCGTGGGTGACGGAATTCGTC	2168	QY	3189	ATCAGAACGGCTGACGCTGAGTACGCTGCTGGTGAAGACGACGCGATATTACCGATTA	3248
Db	4048	---ACCCCCGAGCGGAATGTGGCATGCGCTTTGCGACTGGGCAATTCCTACTGCC	4104	Db	5088	GCCAGCAGGCTGGCAGCTTGGCGGCTGTGCTGAGGAACACAGGGGGCGCTGCCCATCA	5147
QY	2169	GATCAGCGCGACCCCTACAGCAGCGCAGCTGTTTATCATCTCATGCGGGTTAAACAGC	2228	QY	3249	CCCTGAGCGCAACATCGATTCGCTTGGCAACAGCAGCGCGGCCCAAGCGTGACGGGCC	3308
Db	4105	GATGCGCTGCGTCCCTCTTGGCTGCTGATATCCCGCTTATCGCTCCGCGCGC	4164	Db	5148	CCCTGTCCGCGCATCGCGCGCTTCTGGCACAGTTCCATCATCAGCCCGGTGAGCGGCC	5207
QY	2229	GCGTGAAGCACTGGAAATGCGGTACCGCATGCTGGCGCTGCGGATTTTGTATCAG	2288	QY	3309	TGCGCGCGGCTGTTTTCATGCAACCGGTTACTCTCTTGGCGCTCGCGCTGGCGCTAG	3368
Db	4165	ATCGCCAACGGCATTTGACGAGCAA-----AAGCCATCGCGCTGGGTGCGATCTG	4215	Db	5208	TGCGCGCGGTTGTTTCCATGCAACCGGCTATTGCTGCGCTGCGCTGGCGGTTGCGCTGG	5267
QY	2289	CCGGCTGGCGCGCATTTGAGTGGCATGAGCTTGGTGGCGCGCATCAACGCTTTAGC	2348	QY	3369	CGGAGTTGGTGAAGCGCTGTTTGGCCACCGATGCCCTCAGCTCAGCGCAACATATCGAAC	3428
Db	4216	GTGGCCAGCGCGCGGCTGCTGGCGCATGCCAACGCTCCGCGCAGCGGCAATTGCC	4275	Db	5268	CGGACCGCATGTCACCAACGCGCGGAGTGATCAGGGCGGCTCTATCAGCTGATCGCG	5327
QY	2349	CGTGTTCATCACTGGAGCAGCATCTGCAACAGCTGCTGACCGCAGATGTTTACGCGCTA	2408	QY	3429	GCTTTGCCGTGACGAGTGGCGGAAACAGGATTTTTCGCTCTGCTTAAACCGCATGCTGT	3488
Db	4276	CATTTCGCAACCTGATTACGAGCTGC-----GGATCGCTGTTTCTGTACCGGCGAG	4328	Db	5328	ATTTTCGCGCGCGCCACTGGCAGACAAACGCTTTTTCGCGCTGCTTAAACCGCATGCTTT	5387
QY	2409	CGGATGTACGGATTACAGGCGCAGCTGAGCGCGCAGCGGTTGCCAGCGTGGCGCGAC	2468	QY	3489	TTTTTGGCCGTGAAGCGCAGCAGCGCTGGCGCGGTGATGCAACGTTTTTATCCGGCTCGATG	3548
Db	4329	TGCAAACTTCAGCGCTTGGACACGCCACGCTGCTTCCGCTCAACGCGCGCATCCCT	4388	Db	5388	TCCTGGCGCGCACACCGACAGCGTGGCGCGGTGATGACGCGGTTTATCAGCTTGACG	5447
QY	2469	ATCGTCAGCAGCGGCTGTGCAAGCAGCAAGTCTGTGCTGGCGAGGCGACCTGATGCGCA	2528	QY	3549	CCGGGTTAATTAGCCGCTTTTACCGCGGCAACTGCGCGCTGCGCGATTAACCGCGGATTC	3608
Db	4389	GTGACGAGTACGCTGCTTATACCGGGGAGCGGT-----ATGA	4427	Db	5448	AGCAGCTGATCGCCCGTTTTTATGCGCGCGAGCTTGCCTCCGCGCAGCGCGCGCTGC	5507
QY	2529	CGCAATACGATGATTTGGTGGTGGTGTGAGCTGGCGAATGGCTTGTGCTGCGCTGCTC	2588	QY	3609	TGTTGGCGCAGCGCGCTGCCCATCGGTGAAGCGCTGCGCGCTGTT-----GAAATT	3662
Db	4428	AAAAATGGGATCTGATTTGCTGCGCGCGGCTGGCCAAACGGGCTTTATCGCTTGGCGAC	4487	Db	5508	TGCTTGGCAAAACCGCGGTTGCCGATTTGTGCGGGCGGATCAAAGCCCTGCTCCACACTCAT	5567
				QY	3663	CTGTGAAACCAAGGAAAGAAAAATGAAACGCACTTATGTGTTGGCGCAGGCTTTTGGCGG	3722

Db	5568	CTTTCTCTGAGCCCATCATAAATGAACAACCAATTTGTAATTTGGCCCGCGGTTTCGGCGG	5627	Db	6648	TGCGCCCTGCGTAAACCGACCCGCTGCTGGCCCGCCGCGGTGGCGGAGCTACTATATGTGCT	6707
Qy	3723	CTTGGCGCTGGCGATTGCGCTGCAAGCGGGGATACCAACCACTTACTTCGAGCAGCG	3782	Qy	4803	AGCGCCGCTGCCCATCTCGGCACCGCTGACATCGACTGGCAAACAGGAAGGACCGCGCTT	4862
Db	5628	ACTGGCGCTGGCGATTGCGCTTCAGGCGGGGATTCCTACACGCTGCTGGAGACCG	5687	Db	6708	CGCGCCGCTGGCGCACTCGGTAAACGCCCGCTCGACTGGAGCGTGAAGGCGCGCTCT	6767
Qy	3783	CGACAAACCGGGCGGACCGCCTATGTGTTTGAGGACAGTGGCTTTACCTTCGATGCCG	3842	Qy	4863	GCSCGATCGAATTTTGTCTTATCTGGAGCAGCACTACATCGCGGGAATTACGTTCAGCAATT	4922
Db	5688	CGACAAACCGGGCGCGCCTATGTCTACGAAGATCGCGCTTTTACCTTTGATCGCG	5747	Db	6768	CGCGGATCGCATTTTGTGATTTATCTCGAAGCGCGCTATATGCGCGGGCTGCGCTCCAGCT	6827
Qy	3843	ACCCACGGTATACACCGATCCAGCGGCATCGAAGAGTTGTTACGCTGGCAGGAAATC	3902	Qy	4923	AGTGACACACAGATGTTTACCGCGTTTGAATTTTCGCGACACGCTGATGCCCATCAGG	4982
Db	5748	TCCACCGTATACACCGATCCCTCGGCATTTGAGGAGCTGTACCCCTCGCGGAAACG	5807	Db	6828	GGTGACGACACGATGTTTACGCGCGGAAGATTTTCGCGATACGCTCGATGCCCGCAGG	6887
Qy	3903	GCTCAGCGATTTACGTTCGAGTGATGCGGTAACGCGCTTCTATCGCCTGCTGGGAAGA	3962	Qy	4983	CTCGCGCTTTTCGCTGGAGCGGATTTTACGCAAGCGCTGTTTCGCGCGCATAAACG	5042
Db	5808	GCTGAAGGACTACGTTGAGCTGATGCGCGGTGACCGCTTCTATCGCCTGCTGGGAAGA	5867	Db	5888	GTACAGCTTTTCACTGGAGCGGATCTCAACCGAGCGCTTGGTTCCGGCGGCACACCG	5947
Qy	3963	TGGCAACAGCTTGAATACGACAAATATACGCGCTGCTGGAGCAGCAGATCGCCACGTT	4022	Qy	5043	CGATGCCGATPATCAGCAATCTCTATCTGTGGGTGCGCGTACGCAATCCAGGCGCGGCGT	5102
Db	5868	CGCAAGTTTTCGACTACGCCAACGATCAGGCGCGCTTGAAGTCGAGATCGCGCGTT	5927	Db	6948	CGACAGCTGTTGATAAACCTCTACCTGTGCGCGCGGAACGATCCCGCGCTGCGCT	7007
Qy	4023	CAATCCGCAAGATGTAGAAGCTATCGTCAATTTCTTTCGCTATTTCAAGTAAATTTAG	4082	Qy	5103	GCCCGCGGTGATCGGTTTCGCGCAAGCGCACCGCAGCGCTGATGCTGGAGATCGCGCGA	5162
Db	5928	TAAACCCGAAACGATGCGCGGCTATCACCGCTTCTCGACTACTCCCGCGCGGTGTTGC	5987	Db	7008	GCGCGCGGTGATCGGATCCGCCAAGGCAACGCGGCCAGTTAATGTTAAAGGATTTAGCGTA	7067
Qy	4083	AGAGGTTATCTGAACCTCGGCAAGGTCGCGTTCCTGAGTGCGTGCATGCTGCGCT	4142	Qy	5163	ATGAATCGACAGCTTTTACTTTGAGCAAGTAAACGCAACCATGCGCGTGGGTCGAAGGT	5222
Db	5988	CGAAGGCTATCTGAAGCTCGCGCGGTGCGCTTCTCTCGCTTTCGCGACATGCTGCGCG	6047	Db	7068	ATG---TCCAGCGCGTCTTCGAACACCGCAGCGCCACCATGACCGCGGTCTTAAAGT	7124
Qy	4143	CGCGCCGAGTGGGAGCTGTCAAGCATGCGCAGCGCTTACAGCATGCTGGCGAAAT	4202	Qy	5223	TTGCCACACCGCCCAAGCTGTTTGTATGACACCGCGCGCAGCAGCTGATGCTGCTAT	5282
Db	6048	CGGTCTCACTGGCGCGCTGCAGGCATGGCGCAGGTGTACGACAAAGTGTGCGCTA	6107	Db	7125	TTGCCACACCGCTCAAGCTGTTTGAACAAACGACACCGCGCGCAGCGCTGATGCTCTAT	7184
Qy	4203	TATTCAGGACGATCATCTGCGTCAAGCGTTCCTTCCACTCATCTGCTGGGCGGTAA	4262	Qy	5283	GCGTGTGCTGCTCACTGCGATGATGTGATGTGGGCAACAGCTGGCGGAGGCGGCGACG	5342
Db	6108	CGTGAAGACGAGCACCTCGCGGCGGCAATTTTCGTTTCACTCGCTGCTGGCGGCA	6167	Db	7185	ACCTGTGCGCGCTACTGCGACGATGTTATCGACGCAACAGGTGGTGGGTTTGTGTCGCCG	7244
Qy	4263	TCCTTTTGAACCTCATCGATCTATACCTTAATTCAGCTGCGCTGAGCGTGAATGGGCGT	4322	Qy	5343	CAGCATGCGCTCGAAGACGCGCAGCAGTATGCGACATCTGCAAAATTGAAACCCGCGCG	5402
Db	6168	CCGTTTCTCACGCTTCTATTTACACCTGATCAGCGCTGAGCGGGAATGGGCGT	6227	Db	7245	ACCGAGCAGAGCAGACGCGCCGAGGCGCGCTGCAACGCGCTGCGTAAGATGACGCGCGC	7304
Qy	4323	GTGCTTTCGCGCGGCGCACCGCGCGCTGGTGCAGGCGATGCGCGACTGTTTCAGGA	4382	Qy	5403	GCCTACAGCGCGCGCACATGGATGAACCGCGCTTTAGGGCGTTTTCAGGAAGTGGCGATC	5462
Db	6228	CTGTTTCCCGCGCGGCGCACCGGTGCGCTGTTTCAGGCGATGTTGAAGCTGTTTCAGGA	6287	Db	7305	GCCTACGACGCGGAACCATGCAAGCGCGCTTTCGCGCGCTTTCAGGAGGTGGCCCTC	7364
Qy	4383	CTTGGCGCGAGCTGTTTACTGAATGCCGAAGTGAGCCAGCTGGAAACCGAGCGCAATCG	4442	Qy	5463	ATTTCACAGCTGCGCAACAACTGGCGTTTGTATCATCTGAAAGCTTTCGCTATGATGATCA	5522
Db	6288	TCTTGGCGGCACCTCACTTAACTGAGTTCAGGCTGAGCGGCTGGAGACGTTGGACATCA	6347	Db	7365	GCCCATGCCATTCGCGCTACTCAGGCGCTTCGACCACTCGAAGGCTATGCGATGGACGTG	7424
Qy	4443	CATTAGCGCGTTCAGTTAGAGGCGGACGACGCTTCGATGCGCGCGCTGTCGCTCCAA	4502	Qy	5523	CGCAACGACATTTACGCGAGCTTCGATGACACGCTGCTTACTCTATACGCTCGCGGC	5582
Db	6348	GGTGAAGCGCGTGCATCTGTTTAAACGCGGACGCGCTGGAGGCTGCGCGGTGGCGCTGAA	6407	Db	7425	CGCAACGAGCGCTTATTCAGCGCTCGATGATACCTCGCTACTGTTTATACGTTGGCGGC	7484
Qy	4503	TGCGGAGCTGCTGATACCTACGACAACTGCTTCGCGACCATCCGCTGCGCAATGAACG	4562	Qy	5583	GTGCTGCGTTTGTATGATGGCGCGCTAAATGGCGGTGCGCGACGAGCGGTGCTCGATCAC	5642
Db	6408	CGCGGAGCTGTTAAATACCTATGCCCCAGCTGCTGCGGCATCACCGCACCGCGCGCTAC	6467	Db	7485	GTGCTGCGCTGATGATGGCAGGCTGATGGAGTGGCGGACGAGCAGCTGCTGATGCTG	7544
Qy	4563	TGGGACATCTGAAAGCGTAAAGCGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCCT	4622	Qy	5643	GCCTGCGATTTAGGACTGGCGTTCCAGCTCACTAACTATGCGCGCGCATTTGTAGAAAGT	5702
Db	6468	GGCCAAAAAGCTGAACGCAAGCGCATGAGCAACTCGCTGTTGCTCTATTTTGGCCT	6527	Db	7545	GCCTGCGATCTGGGCTATGCTTTTACGCTCAGCTCACTCACTATCGCCAGGATATCGTTGACGAT	7604
Qy	4623	GAATCAGCGCATGAACAGCTCGCGGACCAACGCTGCTGTTTGGCGCGCGTTCATCGTGA	4682	Qy	5703	GCCGAAATGGTTCGCTGCTATCTGCGCAATCTTGGCTCGATCAGGCGGGAATTCAGCGCC	5762
Db	6528	GGATCACCATCACACCCAGCTGGCGCACCATACCGCTGCTGTTTGGCGCGGTTTATTAAGC	6587	Db	7605	GCGCAGGTGGGAGCGCTGCTACTCGCGCAGCAGTGGCTGGCGGAATTCGGAATCAATGA	7664
Qy	4683	GTGATCGATGAGATTTTCAACAGCAGCAGCTGGCAGAGATTTTTCATCTTACCTGCA	4742	Qy	5763	GATACGCTGACTGCACCGCAACATCTGTGACGCTCGCTCTCACTGGCAGCGCGTTTATGTG	5822
Db	6588	GCTAATCGATGAATTTTTCAGCGCGGACACCTGTGCGGAAGATTTTTCGCTCTATCTGCA	6647	Db	7665	CAGACCTGCACCTGTGGGCAACCGCTCCGCGCTGGCGCTGTGGCAGCGCGCGCTGTG	7724
Qy	4743	CGCGCCCTGACGAGCGATCCGCTGCTGGCACCGCGCGCTGGCGCAGCTTTTATGTGTT	4802	Qy	5823	GCGGAGCGGAAACCTTATTTATCACTCGCGCGCATCCGGTTTACCGGTTTACCGCTGCGC	5882
Db				Db	7725	ACCGAGGCTGAGCCCTATTATCAGTCAGCGCTTTCGCGGCGTGGGGGATCTGCCCTGCGC	7784

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QY 5883 TCGCGCTGGCCATCGTACGGCTCGGGGTTTATCGGAAATTGGCTCAAGTTCAG 5942
Db 7785 TCGCGCTGGCGATGTCCACCGCGCATGGGGTGTATCGTAGATCGGGGTGAAGGTGCTG 7844
QY 5943 CAGCGCGGTGTGACGCTGGGATTCAGCGCAGCGCACCAAGTAAAGTGAAAACTGGCG 6002
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QY 6003 CTGCTGGTGAAGGGCAGGTTTGGCGATCACCTTCGCTGTGTCTCGTCTGAACCGCGT 6062
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Db 8025 CTTGAGCTTGTCCACGGGTGGCGGTAGATAAACCGAGGAGACGACCTTTCGGCC 8084
QY 6183 CGCGCACCGCATGATGCTGGGTGGCGCATGATATAGCGCTTAAAGCGCTTTCGGCG 6242
Db 8085 CCGCACCGCTGATGACGCGGTGTGCCATGTAGAGGCGCGCAGATAGCGCGCGCG 8144
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QY 6483 TGTATTTATCGACAGCGCGCTACGATTTCCATCACCACACCGTTGCGCAACAAAGATA 6542
Db 8385 TGTACTTGTGTGGAAGCTTGCCACCCCTTCCATGATGATGATGATGATGATGATGATGAT 8444
QY 6543 GCAGTTTCCATAACAGAGCAATGTTGTCCTATTT 6577
Db 8445 CGGTATTCACAACGCAAGCATAGTTTTCCTGT 8479
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RESULT 3
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; Sequence 1, Application US/08980832B
; Patent No. 6291204
; GENERAL INFORMATION:
; APPLICANT: Pasamontes, Luis
; APPLICANT: Pygankov, Yuri
; TITLE OF INVENTION: Improved Fermentative Carotenoid Production
; FILE REFERENCE: Improved Fermentative Carotenoid
; CURRENT APPLICATION NUMBER: US/08/980,832B
; CURRENT FILING DATE: 1997-12-01
; NUMBER OF SEQ ID NOS: 66
; SOFTWARE: PatentIn ver. 2.1
; SEQ ID NO 1
; LENGTH: 8625
; TYPE: DNA
; ORGANISM: Flavobacterium sp. R1534
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8348)..(8349)
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; NAME/KEY: unsure
; LOCATION: (8539)..(8540)
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; FEATURE:
; NAME/KEY: unsure
; LOCATION: (8581)
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; LOCATION: (8602)..(8604)
US-08-980-832-1
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Query Match 14.8%; Score 1035.4; DB 3; Length 8625;
Best Local Similarity 56.5%; Pred. No. 7.8e-257;
Matches 2037; Conservative 0; Mismatches 1536; Indels 30; Gaps 5;

QY 2486 GTGCCAGCAGCAAGTCTGCTGCGGAGGCGACCTGATGGCAGCGCAATACGATGTGATT 2545
Db 6984 GGGCGCGCTGTCTGAAGGACCGCGAAGGGCGGATCGCAATACATGAGCCATGATCTGCTG 6925
QY 2546 TTGGTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2605
Db 6924 ATCGCGGCGCGGGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6865
QY 2606 CAACTGAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2665
Db 6864 GATCGCGCATCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6805
QY 2666 TTTTCATCAGCGCATCTGACGCGCGCAAACTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2725
Db 6804 TGCACGACGCGATCTTTCGCGCGAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6745
QY 2726 CGTTGCTCAGGTTATCAGGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2785
Db 6744 GAATGACCGCATCAGGAGGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6685
QY 2786 TGTTCATCGCATCAGCGCATTTTTCGCGCATCTTTTACGCGCGCATGCTGCTGCTGCTGCT 2845
Db 6684 GGTTCATCAGCGCGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6634
QY 2846 TGGACAAACACAGCGCTCAACAGGTAACACACAGCGTACGCTGCGCGGATGCGCGT 2905
Db 6633 CGTGAATACGATCTCGGACGCTGAGCATACCGCGCGCGCTGACGAGCGGCTG 6574
QY 2906 GAATTTGCTGCGCAAGTGTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2965
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Db 6513 GTGGTTTCCAGAAATTCGTGGCGCTGAGATCGAGACCGACCGCGCGCGCGCGCGCGCGCG 6454
QY 3026 CAGCGCATCTGATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 3085
Db 6453 CGCGCGATGATCATGACGCGCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6394
QY 3086 CTGCGCGCTCAGCGCGCATCGGCTTATTTGATTTGAAGATACCCATTACGTTTAAACGCGCG 3145
Db 6393 CTGCGCTTCACTCCACCGCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6334
QY 3146 CTGCGCGGAGAACACCGCTGCTGACGACATCGCGCTGCTGCTGCTGCTGCTGCTGCTGCTG 3205
Db 6333 CTGAGCATGGCGCTGCGCGAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 6274
QY 3206 CTGAGTACGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 3265
Db 6273 GGGCAGGATGCTGCGCGCGGAGGCGCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6214
QY 3266 GATCGATTCTGGCAACAGCAGCGCGCGCAAGCGTGCAGCGCGCTGCGCGCGCGCGCTGTT 3325
Db 6213 GGCTTCTGCGCGACCAACGCGCGCGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 6154
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QY	3326	CATGCCACCAACCGGTTACTCTTGCCTCGCGCTGCGCTAGCGGAGTTGGTAGCAGCG	3385	QY	4406	ATCCGAAGTAGCCAGCTGGAACACGAGCGCAATCGCATTAGCGCGTTTCAGTTAGAGG	4465
Db	6153	CACCCGTCACCGGATATTGCTGCCCTATGCGCGCAGAGTCGCGGATGCCATCGCGCG	6094	Db	5076	ATGCCCGCTCACCGCGATCGACACGAGGCGCATCGGCGCACGGGCTCACGCTGCTGG	5017
QY	3386	CTGTGGCCCAACCGATGCCCTCAGCTCAGCGCAACATATCGAAGCTTTGGCCCGTACGAG	3445	QY	4466	CGGAGCGAGCTTTTCGATGCGCCGCTGTCGCTCCAAATGCGCGAGCTGGTGCATACCTACG	4525
Db	6093	CGGACGTCGACACCGCTCGCGCTCGCGCGCTGCGCGCTGCGCGCTGCGCGCTGCGCG	6034	Db	5016	ACGGGCGGAGTTGCGCGCGGATACGTTGGCCAGCAACCGCGAGCTGATGCACAGCTATC	4957
QY	3446	TGCGCGCAACAGCGATTTTTCGCTGCTGCTAAACCGCATGCTGTTTTGGCCGCTAGCAG	3505	QY	4526	ACAACTGCTTCCGCAACCATCGCTGCGCAATGAACGTCGCGACATCGCTGAAGCGTAAGC	4585
Db	6033	GATCGCG---ACGCTTCTCGGCTGCTGAAACCGGATGCTGTTTTCCCGGCTGCGCGCC	5977	Db	4956	GGCACTGCTGGGCCATACCCGCGCGGCGCACCAAGGCGCGATCTCTGAACGCGCAGC	4897
QY	3506	CAGCAGCGCTGGCGCTGATGCAACGCTTTTACCGGCTCGATGCGCGTTAAATTAGCGCG	3565	QY	4586	GCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCCCTGAATCAGCGCGCATGAACAGCTCG	4645
Db	5976	GACCGTCGCTATCGCTGCTGACAGCGTTCTACCGCTGCGCGAGCGCTGATCGAGCGC	5917	Db	4896	GCTGGTCGATGTCGCTGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG	4837
QY	3566	TTTTAGCGCGGCAACGCGCTGCGCGATGAACGCGGATTTCTGTGCGGCAAGCGCGCG	3625	QY	4646	CGCACACACACCTGCTGTTTTGGCCCGGCTTATCGTGATGATGATGATGATGATGATGATG	4705
Db	5916	TTCTATGCGCGGCGCTGACATTGGCGACCGGCTTCGCACTGCTACCGGACGCGCGCC	5857	Db	4836	CCACACACAGCGTCACTTTGGCCCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG	4777
QY	3626	GTGCCCATCGTGAAGCGCTGCGCGCTGCTGTAATTTCTGCGAACCAGGAGAGAAAAA	3685	QY	4706	GCAGCCAGCTGGCAGACGATTTTTCATTTTACCTGCAAGCGCGCTGCGAGCAGCATCCGT	4765
Db	5856	ATTCCGCTGTCAGAGCGCTGCGCTGCTGCCGAAGCGCCCTGCTGCGAGGAGAGCA	5797	Db	4776	GGCAGCGCTGCGGAGATTTCTCGATGATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG	4717
QY	3686	TGAAACGCACTTATGTAATGGCGCAGGCTTTGGCGGCTGGCGCTGGCGATTCGCTGC	3745	QY	4766	CGCTGCACCGCCCGCTGCGGAGCTTTTATGTTAGCGCGCTGCCGCATCTCGGCA	4825
Db	5796	TGAGTTCCGCCATCGTCATCGCGCAGGTTTCGGCGGCTTGGCTTGCCATCGGCTGCG	5737	Db	4716	GCCTGCGCCCGAGGGGATGTCACGCAATTACGCTTTCGCGCGCTTCCGCATCTGGGCC	4657
QY	3746	AAGCGGCGGCATACCAACCACTTACTCGAGCAGCGCGCAAAACCGGCGCGACGCGCT	3805	QY	4826	CGCTGACATCGACTGGCAACAGGAAGACCGCGCTTGGCGGATCGAATTTTTGCTTATC	4885
Db	5736	AATCGCGCGCATCGCGACCAACCATCGTCAGGCGCGCGACAAAGCGCGCGCGCGCT	5677	Db	4656	GGCCGATGTCGATTGGGAAGCGAGCGCCCGGCTATGCCAGCGCATCTTCGAGGAAC	4597
QY	3806	ATGTTTGAAGACAGTGGCTTTACCTTGCATGCGCGACCAAGCTGATCACCGATCCCA	3865	QY	4886	TGGAGCAGCATACATGCGCGGATTAAGTCAGCAATTAAGTCACACAGCAATGTTTACGC	4945
Db	5676	ATGCTGGAACGATCAGGCGCACGCTTTCGATGAGCGCGCGAGCGTGTGACCGACCCG	5617	Db	4596	TGGAGCGCGCGCATCCCCGACCTCGCAAGCACCTGACCGCATCTTCAGCC	4537
QY	3866	GCGCCATCGAAGAGTTGTTTCACTGCTGGCAGGAAATCGCTCAGCGATTACGTCGAGCTGA	3925	QY	4946	CGTTTGAATTTTCGCGACAGCTGCGCATCGCCCATCACGCGCTCGCGCTTTTCCTCGAGCGCA	5005
Db	5616	ACAGCTCGGAGAGCTGTTGGCCCTCAGCGCCCAACCGATGGAGCGTGAGCTGACGCTGC	5557	Db	4536	CGCGCATTTTACGACCGCAACTGTGCGCCCATCACGCGAGCGCTTCTCGTTCGAGCGCA	4477
QY	3926	TGCGGTAAACGCTTCTATCGCTGCTGTGGGAAGATGCAACAGCTTGAATTAAGACA	3985	QY	5006	TTTTGACGAAAGCGCTGTTCCGCGCGGATTAACCGCGATGCGGATATCAGCAATCTCT	5065
Db	5556	TGCGGCTCTCGCCCTTCTACCGCTGACATGGCGGAGCGGCGCGCTTTCGAATACGTTGA	5497	Db	4476	TCCTGACGCAATCGGCTGCTTCCGCGCGCATAAACCGCGACCGCGGATCCCGAACTTCT	4417
QY	3986	ATAATCAGCGCTGCGAGCAGATCGCCAGCTTCAATCCGCAAGATGTAGAAGCT	4045	QY	5066	ATCTGTTGGTCCGCTGACGATCCAGCGCGCGGCTGCCGCGCTGATCGGTTCCGCCA	5125
Db	5496	ACGACGACGAGCTGATCCGCGAGTCCGCTTCAATCCGCGGATGTCGATGGCT	5437	Db	4416	ACATCGTGGGCGGCGACGCACTCGGGTGGGCGCATCCGCGGTGCTGTTGGCAGCGCCA	4357
QY	4046	ATCGTCAATTTCTTGCTATTACGTGAAGTATTTAGAGAGGTTATCTGAACCTCGGCA	4105	QY	5126	AGGCCACCGCCAGGCTGATGCTGGAGGATCGCGCCGAATGAATCGACAGCTTTTACTTGA	5185
Db	5436	ATCGCGCTTCCAGGATTACCGCGAGGAGTCTATCGGAGGGGTATCTGAAGCTGGGA	5377	Db	4356	AGGCCACCGCGGAGGTCATGCTCGGACCTGGCCCTCGCATGACCGATCTGACGGCGAC	4297
QY	4106	CGGTGCGTTTTCGAGGTGCGTGAATGTCGCGCTGCGCGCGAGTTGGGACGCTGCG	4165	QY	5186	GCAGTAAACGCAAAACATGGGCTGGGCTCGAAGATTTGCGCACCGCGCGCAAGCTGTT	5245
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QY	4166	AGCATGGCGACGCTTACAGCATGGTGGGAAATTTATTCAGGAGCATCTCGGTC	4225	QY	5246	TGATGACCGCGCGCGCGCGCATGCTGATGCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTG	5305
Db	5316	AGGCATACCGCTCGGTCACAGATGGTGGCGGCTTCAATCCAGGACCGCGCATCTCGCG	5257	Db	4239	GGCGCCCGCATCCCGCGGATACGCTCATGCTCTATGCTGCTGCTGCTGCTGCTGCTGCTG	4180
QY	4226	AGCGTTTTCTTCTCACTANTCTGCTGGGCGGTAACTCTTTTGAACGTCATCATCT	4285	QY	5306	TGTGATTGATGGCAAAACGCTGGGCGGAGCGCGCATGCGCTGCGAAGCGCGCA	5365
Db	5256	AGGCTTCTGTTTCCACGCTGCTGCTGGCGGGAAACCGGTTTTGACAGCTCATCT	5197	Db	4179	CGTATCGAGCGGAGGTCATGGGTTCTGCCCGGAG-----GCCGGGCGCGACCCACA	4126
QY	4286	ATACCTTAATTCATGCGCTGGAGCGTGAATGGGCGGTGTGGTTTCCGCGCGCGGACCG	4345	QY	5366	GGCAGTATGCAAGCATCTGCAAAATTGAAACCGCGCGGCTACAGCGGCGCGCATGGA	5425
Db	5196	ATCGCTGATTCATGCTGGAACGCGCGCGCGGCTGCTGCTTTCGCAAGGGCGGACCCA	5137	Db	4125	GGCGGCTGGGCGGCTGCGCGCGCACACGCTGGCGCGCTGCGAGCGCGCGCAT	4066
QY	4346	GGCGCTGTTGAGGCACTGGCGGACTGTTTCAGGACTTTGGCGGCGGAGCTTTTACTGA	4405	QY	5426	TGNAACCGGCTTTAGGCGGTTTTCAGGAAGTGGGATCATTCACAGCTGCGCGCAACT	5485
Db	5136	ACCAGTGGTGGCGGCGATGGTCCGCTGTTTCAGAGGCTTTCGCGCGCACGCTGCTGCTGA	5077	Db	4065	GTGCGCGCTTTCGCGCGCTGCGCGAGGTTCGCGCGGCGCATGATTTTCGCGACCTTTG	4006
				QY	5486	GGCGTTTGATCATCTGGAAGGCTTCGCTATGATGCAACGAACAAACATTCACGAGCTT	5545

Qy	3626	GTGCCCATCGGTGAAGCGCTGCGCGCGCTGTTGAAATCTGTGAAACCGAGGGAAGAAAAA	3685	Qy	4706	GCAGCAGCTGGCAGACGATTTTTCATCTTTACCTGACGCGCTGCGAGCAGCGATCGGT	4765
Db	6538	ATTCCGCTGTGCGAGCGCGTGCCTGCTGCCCGGAACGCCCTCTGCTGACGAGAGACA	6479	Db	5458	GGCCACGCGCTGCGGACGATTTTCGATCTGATCTGCAATTCGCTTCGCTGCGTGAACCGATCCCA	5399
Qy	3686	TGAAACGACATTAATGTGATTTGGCGCAGAGCTTTGGCGCGCTGGCGCTGGCGATTCGCCCTGC	3745	Qy	4766	CGCTGGACACCGCCCGCTGCGGACGCTTTTATGTGTTAGCGCGCGTGGCGATCTCGGCA	4825
Db	6478	TGAGTTCCGCGCATCGTCAATCGCGCGAGGTTTTCGCGCGGCTTTGCGCTTCCCATTCGCCCTGC	6419	Db	5398	GCCTGGCCCCCGAGGGGATGTCCACGCAATTAAGTCTTTGCGCCCGCTTCGCACTCTGGGCC	5339
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Db	6358	ATGTCTGAACGATCAGGCGCACGCTTTCGATGACAGGCCCGACGCTGCTGACCGACCCCG	6299	Db	5278	TGAGCGCGCGCGCATCCCGACCTCGCAAGACACCTGACCGTCAGCGCGCATCTTCAGCC	5219
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Db	6178	ACGACGACGAGCTGATCGCCAGGTGCGCTCTTCAATCCCGCCGATGTGATGGCT	6119	Db	5098	ACATCGTGGGGCGGCGACGATCGGGTGGCGCATCCCGGTGTGCTTGGCAGCGCA	5039
Qy	4046	ATCGTCAATTTCTGCTTATTCACGTGAAGTATTTAGAGAGGTTATCTGAATCTCGCA	4105	Qy	5126	AGGCCACCGCCAGGCTGATGCTGGAGGATTCGCGCGCAATGAATCGACAGCTTTACTTGA	5185
Db	6118	ATCGCGCTTCCAGATTAACGCGAGGAGGTCTATCGCGAGGGTATCTGAAGCTGGGA	6059	Db	5038	AGGCCACCGCGCAGCTATGCTGTGCGACCTTGGCGCTCGCATGACCGATCTGACGCGCAC	4979
Qy	4106	CGGTGCGCTTCTGAGGTGCTGACATGCTGCGCTGCGCGCGCGAGTTGGAGCTGCTGC	4165	Qy	5186	GCAAGTAACGCAAAACATGGCGGTGGCTCCAGAGTTTCGCCACCGCGCGCAAGCTGT	5245
Db	6058	CCAGCCCTTCTGAAGCTGGGCGAGTGTCTGAACCGCGCGCGCGCTGATGGCGCTGC	5999	Db	4978	TTCCGAAGCG---GCCATCGCGAGGTTTCGCAAGCTTCGCGCAGGCGGCGCAAGCTGAT	4922
Qy	4166	AAGCATGSCGAGCGCTTACAGCATGTGGGGAATTTATTCAGGACCATCATCTGCGCTC	4225	Qy	5246	TGATGACCGACGCGCGCAGCAGCTGATCTGTATGCTGTGTGCTGTCTCATCTGCGATGA	5305
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Qy	4226	AGGCGTTTCTTCCATCTATGCTGTGGGCGGTAAATCTCTTTTGGCAACGTCATGATCT	4285	Qy	5306	TGTGATTTGAGGCAAAACGCTGGGCGGAAGGCGGACGCGCATGCTGCTGAGAGCGCGCA	5365
Db	5938	AGGCTTCTGCTTCCACACGCTGTGTGTGCGGCGGAACCCGTTTTTCGACACGCTGATCT	5879	Db	4861	CGTGATCGACGCGGAGGTGATGGGTCTTGCCTCCCGAG-----GCGGCGCGCACCCACA	4808
Qy	4286	ATACCTTAATTCATGCGCTGAGCGTGAATGSGGCGTGTGTTTCCGCGCGCGGACCG	4345	Qy	5366	GGCAGCTATGCAAGCTCTGCAAAATTTGAAACCCCGCGCGCTTACAGCGCGCGCACATGA	5425
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Qy	4346	CGCGCTGTGTGAGGCAATGGCGGACCTGTTCGAGGACTTGGGCGCGGAGCTGTTACTGA	4405	Qy	5426	TGAAACCGCGGTTTGGGCGGTTTTCAGGAAGTGGCGATCATTTCCAGCTTGCAGCAACACT	5485
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Qy	4406	ATGCGGAAGTGAAGCTGGAACACGAGCGGAATTCGATTTAGCGGCTTCAGTTAGAGG	4465	Qy	5486	GGCGTTTGAATCATCTGGAAGGCTTCGCTATGGAATGACGCAACGAAACATTAACGCGAGCTT	5545
Db	5758	ATGCGCGCTCACGCGATGACACCGAGGCGATCGCGCACGCGCGCTCACGCTGCTGG	5699	Db	4687	GCCGATGGAACCTGATCGAGGGTTTCGCGATGGAATGTCGCGATCGCGAATACCGCAGCT	4628
Qy	4466	CGGACGAGCTTCGATGCCCGCTGTGGCTCCATGCGCGAGCTGCTGCTGATACCTACG	4525	Qy	5546	CGATGACACGCTGCTTACTCATACGTCGCGGCGTGTGCTGCTTGTGATGATGGCGG	5605
Db	5698	ACGGCGGCGAGTTGCGCGGATACGCTGGCGGCGACGACGCGGCGATGATGACAGCTATC	5639	Db	4627	GGATGACGCTGGAAATATTCCTACACGCTGCGGGGCTGTGCGGCGTGTGATGGCGCG	4568
Qy	4526	ACAACTGCTTCGCGCACCATCCGCTGGCAATGAACGCTGCGACATCGCTGAAGCGTAAGC	4585	Qy	5606	CGTAATGGGCTGCGGACGAGCGGTGCTGATCAGCCCTGCGATTTTAGGACTGGCGCT	5665
Db	5638	CGGACTGCTGGGCGCATACCGCGCGCGGCGGCGACCAAGCGCGGATCTCTGAACCGGACG	5579	Db	4567	GGTATGGGCGTGCAGACGATGGGTGCTGGATGCGGCTTGCATCTGGGCTTGCCTT	4508
Qy	4586	GCATGAGCAATCGCTGTTGCTACTTATTTTGGCTGAAATCAGCCGATGAACAGCTCG	4645	Qy	5666	CCAGCTCACTAACATTCGCGCGGACATTTGTAGAAAGATGCCGAAATGCTGCTGCTATCT	5725
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Qy	4646	CGCACCAACCGTCTGTTTGGCGCGCTTATCGTGAAGTGAATCGATGAGATTTTCAACA	4705	Qy	5726	GCCGCAATCTGGCTCGATCAGGCGGATTAACGCGCGATACGCTGACTGACACGCAACA	5785
Db	5518	CCCAACCAACGCGTCTCTTCGCGCGCGCTACAAGGGGCTGTGTAACGAGATCTTCAACG	5459	Db	4447	GCCTGCGCATGCTGGCTGGCGGAGCGGG-----GCGGACGCTTGAAGGCTCGGTCGC	4397
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RESULT 6

US-09-920-923B-27/c
; Sequence 27, Application US/09920923B

; Patent No. 6677134

; GENERAL INFORMATION:

; APPLICANT: Pasamontes, Luis

; APPLICANT: Tsygankov, Yuri

; TITLE OF INVENTION: Fermentative Carotenoid Production

; FILE REFERENCE: 15464 US (C39435/125944)

; CURRENT APPLICATION NUMBER: US/09/920.923B

; CURRENT FILING DATE: 2001-08-02

; PRIOR APPLICATION NUMBER: 08/980,832

; PRIOR FILING DATE: 1997-12-01

; NUMBER OF SEQ ID NOS: 66

; SOFTWARE: PatentIn version 3.1

; SEQ ID NO 27

; LENGTH: 11233

; TYPE: DNA

; ORGANISM: Unknown

; FEATURE:

; OTHER INFORMATION: Plasmid pZee4

US-09-920-923B-27

Query Match 14.8%; Score 1035.4; DB 3; Length 11233;
Best Local Similarity 56.5%; Pred. No. 8.9e-257; Mismatches 1536; Indels 30; Gaps 5;
Matches 2037; Conservative 0;

Qy 2486 GTCCAGCAGCAAGTCGTCTGGCGAGCGCACCTGTATGCGCAGCAATACGATGTGATT 2545
Db 7666 GGGCGCGTCTGAAGGACCGGAGGGCGGATCGCAATACATGAGCCATGATCTGCTG 7607
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Qy 2966 CTGGTTTATCAGGTGTTTCTTGGACAGAGTGGCAGCTGGCGCAGCGCGCATCGGCTCGAG 3025
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Qy 3146 CTGCGCGAGAACACCGCTCTGTCAGCACATCGCGGACTATGCAATACAGCAAGGCTGAGC 3205
Db 7015 CTGACGATGGCGCGCTGGCGAGGCGTCTGCTGGACTATGCGCGCAGCGGGGCTGGACC 6956
Qy 3206 CTGAGTACGCTGTGCTGTAAGAGCACGGGATATTACCGATTACCTGTAGCGGGAACATC 3265
Db 6955 GGGCAGGAGATGGCGCGAAAGGGGATCTCTGCCATTCGCGCTGGGCCCATGACGCCATA 6896
Qy 3266 GATCGATTCTGGCAACAGCAGCGCGCAAGCGTGCAGCGGCTTCGCGCGCGGCTGTTT 3325
Db 6895 GGTCTTGGCGGACCAACGCGAGGGCGGCTGCGCGTGGGCTGGGGCAGGGCTGTTTC 6836
Qy 3326 CATGCCACCAACCGTTACTCTCTTGGCTTCGCGCTGGCGCTGAGCGAGTTTGGTAGCAGC 3385
Db 6835 CACCCGTCACCGGATTTGCTGCCCTATGCGCGCAGGTCGCGGATGCCATCGCGCG 6776
Qy 3386 CTGTTGCCACCGATGCGCTCAAGCTCAGCAACATATCGAACCTTTGCCGCTCAGCAG 3445
Db 6775 CGCGACCTGACGACCGGCTCGCGCGTTCGCGCGTGGGCTATCGATCGCGCG 6716
Qy 3446 TGGCGCAACAGCGGATTTTTCGCTCTCTAAACCGCATGCTGTTTTCGCGCGTAAGCG 3505
Db 6715 GATCGCG---ACCGCTTCTCGCGCTGCTGAAACCGATGCTGTTTCGCGGCTGCGCGCC 6659
Qy 3506 CAGCAGCGCTGGCGCGTGCATGCAACGTTTTCACCGGCTTCGATGCGCGGTTAAATGACGCG 3565
Db 6658 GACCGTCGCTATCGCTGCTGACGCGGTTCTTACCGCTTCGCGCAGCGCTGATCGAGCGC 6599
Qy 3566 TTTTACGCGCGGCAACTGCGCTCGCGGATTAACCGCGGATTCGTGCGGCAAGCGCGCG 3625
Db 6598 TTTATGCGCGCGCTGACATTTGGCGGACCGGCTTCGATCGCTCACCGGACCGCGCGCC 6539
Qy 3626 GTGCGCATCGGTGAAGCGCTGCGCGCGCTGTTGATTTCTGCGAACACAGGGAAGAAAAA 3685
Db 6538 ATTCGCTGTGCGAGGCGGTGCGCTGCTGCCGAAACGCCCTCTGCTCGAGAGAGACA 6479
Qy 3686 TGAACGCACTTATGTGATTGGCGCAGGCTTTTGGCGGCTTGGCGCTGGCGATTCGCCCTGC 3745
Db 6478 TGAGTTCCGCCATCGTTCATCGCGCAGGTTTCGCGGGGCTTGGCTTCCCATCCGCTGC 6419
Qy 3746 AAGCGCGGCGATACCAACCACTTATCTCGAGCAGCGGCAAAACCGGGCGGACGCGCT 3805
Db 6418 AATCGCGCGGATCGGACCAACCATCTGTCGAGGCGCGGCAAAAGCGCGCGCGCGCT 6359
Qy 3806 ATGTGTTTGAAGACAGTGGCTTTTACCTTCGATGCGGACCGACCGTGTATCCCGATCCCA 3865
Db 6358 ATGTCTGGAACGATCAGGCGCACGCTTTCGATGAGGCGCCGACCGTCTGTGACCGACCGCG 6299
Qy 3866 CGCGCATCGAAGAGTTGTTTCAAGCTGCGCAGAAAAATCGCTCAGCGATTACGTCGAGCTGA 3925
Db 6298 ACAGCTGCGAGAGCTGTGGGCGCTTCAGCGCGCAACCGATGGAGCGTGCAGCTGACGCTGC 6239

Db 1433 TCGCCGAAAGCACCCAGCCTGATGATGAGGATC---TGCAATGAGCCAAACCCCGCT 1489
Qy 5180 ACTTGAGCAAGTAACGCAAAACCATGGC 5206
Db 1490 GCTTGACCACGCCAGCAGACCATGGC 1516

RESULT 10

US-08-096-043-7
; Sequence 7, Application US/08096043
; Patent No. 5530189
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedhelm L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Hwei-Che B
; TITLE OF INVENTION: Lycopene Biosynthesis in
; TITLE OF INVENTION: Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 70
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/096,043
; FILING DATE: 22-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/785,568
; FILING DATE: 30-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Galloway, No. 5530189val B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 3128567180
; TELEFAX: 3128564972
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1518 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-08-096-043-7

Query Match 10.2%; Score 713.4; DB 2; Length 1518;
Best Local Similarity 67.7%; Pred. No. 6e-174;
Matches 1034; Conservative 0; Mismatches 481; Indels 12; Gaps 2;
Qy 3680 AAAAAATGAACGACCTATGATGCGGAGGCTTTGGCGGCTGGCGGCTGGCGATTC 3739
Db 2 AAACCATGGAAAAAACCGTTGTGATTTGGCGAGGCTTTGGTGGCTGGCGGATTC 61
Qy 3740 GCCTGCAAGCGGGCGGATACCAACACCTTACTCGAGCAGCGCGACAAACCGGGCGGAC 3799
Db 62 GCCTGCAAGCGGGAGGATCCAAACCGTACTGCTGGAGCAGCGGGAAGCCCGGCGTC 121
Qy 3800 GCGCCTATGTTTGGAGACAGTGGCTTTTACCTTCGATGCGGACCCACCGTGTATCACCG 3859
Db 122 GGGCCTACGCTGGCATGACGAGGCTTTTACCTTTGACGCGCGGCGGCGGATCACCG 181
Qy 3860 ATCCGACCGCATCGAAGATTGTTACGCTGGCAGGAAAATCGCTCAGCGATTACGTCG 3919
Db 182 ATCCTACCGGCTTGAGGCGCTGTTTCCCTGGCGCGGCGATGAGGATTACGTCA 241

Qy 3920 AGCTGATGCGCGTAACGCCCTTCTATCGCCTGTGCTGGGAAGATGCGCAACAGCTTGATT 3979
Db 242 GCGTGTGCTGCCGTAACACCCCTTACCGACTCTGCTGGGAGTCCCGGGAAGACCCCTCGACT 301
Qy 3980 ACGACAATAATACGCCGCTGCTGGAGCAGAGATGCGCACCGTTCAATCCGCAAGATGTAG 4039
Db 302 ATGCTAACGACAGCTTCGAGCTTGAGGCGCAGATTACCCAGTTCAACCCCGCGCAGCTCG 361
Qy 4040 AAGGCTATCGTCAATTTCTTGCCCTATTACGCTGAAGTATTATTAGAGAGGGTTATCTGAAC 4099
Db 362 AGGCTACCGCGCTTTCTGCTTACTCCCGAGGGGATATCCAGAGGGGATATTTCGCGCC 421
Qy 4100 TCGGCACGCTGCGCTTCTGAGGTGCGTGACATGCTGCGCGTCCGCGCGAGTTGGGAC 4159
Db 422 TCGGCAGGCTGCGCTTCTCTCTTTTTCGACATGCTGCGCGCGCGGCGGAGCTGCTTA 481
Qy 4160 GTCTGCAAGCATGCGGAGCGCTTACAGCATGTTGGGGAATAATTATTTCAGGACGATCATC 4219
Db 482 AGCTCCAGGCGTGGCAGAGCGTCTACAGTCCGTTTCGCGCTTTATTGAGGATGAGCATC 541
Qy 4220 TGGCTCAGGCGTTTCTCTTCCACTTATGCTGGTGGGCGGTAAATCCTTTTGCACGCTCAT 4279
Db 542 TCGCGCAGGCGCTTCTGCTTCCACTCCCTGCTGGTAGCGCGCAACCCCTTTCACCACTCGT 601
Qy 4280 CGATCTATACCTTAATTATCATGCGCTGGAGCGTGAATGGGCGGTGTGTTTCCGCGCGCGC 4339
Db 602 CCATCTACACCTGATCCAGCCCTTGAAGCGGAGTGGGGGTCTGGTTCCCTGAGGGCGC 661
Qy 4340 GCACCGGCGCTGCTGCAAGCGCATGTTTTCGAGGACTTTGGGCGGCGGAGCTGT 4399
Db 662 GCACCGGCGCTGCTGCAAGCGCATGTTTTCGAGGACTTTTACCGATCTGGGCGGAGATCG 721
Qy 4400 TACTGAATGCGAAGTGAAGCGAGCTGGAACACGAGCGCAATTCGATAGCGGCGCTTCACT 4459
Db 722 AACTCAACGCGCGGCTGGAAGAGCTGTTGTTGGCGGATTAACCGGTAAGCCAGSTCCGCG 781
Qy 4460 TAGAGGCGGACGACGCTTTCGATGCGCGCTGTGGCTTCAATGCGCGAGCTGGTGCATA 4519
Db 782 TCGCGGATGCTGGATCTTTTGACACCGAGCGCTGAGCTCGAAGCTGAGCTGGTGAACA 841
Qy 4520 CCTACGACAAATGCTTTGCGCACCATCCGCTGGCAATGAACGTCGCAATCGCTGGAAGC 4579
Db 842 CCTATAAAAGCTGCTCGGCACCATACCGGTGGGCGAGAGCGGCGCACCGCTGGAGC 901
Qy 4580 GTAGCGCATGAGCAACTCGCTGTTTGTACTCTATTATTGGCTGCAATCAGCGCGATGAAC 4639
Db 902 GCAAGAGCATGAGCAACTCGCTGTTTGTGCTTCTACTTTCGCGCTGAAACAGGCTCATTC 961
Qy 4640 AGCTCGCGCACCAACCGCTGTTTTCGCGCGCTTATCGTGAGTTGATCGATGAGATT 4699
Db 962 AGCTGGCGCACCATACCATCTGTTTTCGCTCCCGCTACCGGAGCTGATCGACGAGATCT 1021
Qy 4700 TCAACAGCAGCAGCTGCGCAGAGATTTTTCATTTTACCTTTCGACGCGCTTCGAGCAGCG 4759
Db 1022 TTACCGGCGAGCGCTGGCGATGACTTCTCGCTCTACCTGCACTCGCCTGCGCTGACCG 1081
Qy 4760 ATCGCTGCTGGCACCGCGCGCTGCGGAGCTTTTATGTTTATGCTTACGCGCGCTGCGCATC 4819
Db 1082 ATCCCTGCTGCGCGCTTCCCGCTGCGCGAGCTTCTACGTTGCTGGCGCGCTGCGCGATC 1141
Qy 4820 TCGGCACGCTGACATCGACTTGGCAACAGGAAGGACCGCTTTCGCGGATCGAATTTTTCG 4879
Db 1142 TTGGCAACGCGCGCTGAGCTTGGCGCAGAGAGGCGCGAAGCTGCGGACCGCATCTTTG 1201
Qy 4880 CTTATCTGGAGCAGCACTACATGCGGGGATTAAGCTCAGCAATTAAGTACACACAGAAATGT 4939
Db 1202 ACTACCTTGAAGAGCGCTATATGCGCGCTGCTGCTAGCCAGCTGCTGACCCAGCGGATCT 1261
Qy 4940 TTACGCGCTTGTATTTCGCGCACGCTGATGCCCATCAGGCTCGGCGCTTTCGCTGG 4999
Db 1262 TTACCGCGCAGACTTTCAGCACGCTGAGTTCGCGATCTTTGGGATCGCTTTTTCATCGAGC 1321

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Qy 5000 AGCGATTTTGAACCAAGCGCTGGTTTCGCCCGCATTAACCGCGATGCCGATATCAGCA 5059
Db 1322 CGCCTTCGTTGACCAAGCGCTTGTTCGCCCGCAACCGCGACGACATTC-----AA 1372
Qy 5060 ATCTCTATCTGGTGGGTGGGTACGATCCAGGCGGGGCGTCCCGGGGTGATCGGTT 5119
Db 1373 ACCTCTACCTGGTGGCGCGAGTACTCACCTGGCGGGGATTCCTGGCGTAGTGGGCC 1432
Qy 5120 CGGCCAAGGCCACCGCAGGCTGTGCTGGAGGATCGCGCGAATGAATCGACAGCCTTT 5179
Db 1433 TCGCGGAAAGCACCGCCAGCCTGATGATTGAGGATC---TGCANTGAGCAACCGCGCT 1489
Qy 5180 ACTTGACCAAGTAACGCAACCATGGC 5206
Db 1490 GCTTGACCAAGCCACGACCATGGC 1516

RESULT 11
US-08-096-623A-7
; Sequence 7, Application US/08096623A
; Patent No. 5684238
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L.
; APPLICANT: Brinkhaus, Friedhelm L.
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H.
; APPLICANT: Yarger, James G.
; APPLICANT: Yen, Hwei-Che B.
; TITLE OF INVENTION: Biosynthesis of Zeaxanthin and
; TITLE OF INVENTION: Glycosylated Zeaxanthin in Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 104
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Welsh & Katz, Ltd.
; STREET: 120 S. Riverside Plaza, 22nd Floor
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/096,623A
; FILING DATE: 22-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/805,061
; FILING DATE: 09-DEC-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/662,921
; FILING DATE: 28-FEB-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/562,674
; FILING DATE: 03-AUG-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/525,551
; FILING DATE: 18-MAY-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/487,613
; FILING DATE: 02-MAR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Gamson, Edward P.
; REGISTRATION NUMBER: 29,381
; REFERENCE/DOCKET NUMBER: AMO-006.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 655-1500
; TELEFAX: (312) 655-1501
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1518 base pairs
; TYPE: nucleic acid
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; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; POSITION IN GENOME:
; MAP POSITION: -6 to 1512
; UNITS: bp
US-08-096-623A-7

Query Match 10.2%; Score 713.4; DB 2; Length 1518;
Best Local Similarity 67.7%; Pred. No. 6e-174;
Matches 1034; Conservative 0; Mismatches 481; Indels 12; Gaps 2;

Qy 3680 AAAAAATGAACGACCTTATGTGATTCGGCGCAGGCTTTGGCGGCTTCGCGCTGCGGATTC 3739
Db 2 AAACCATGGAAAAAACCGCTTGTGATTCGGCGAGGCTTTGGTGGCTTCGCGCTGCGGATTC 61
Qy 3740 GCCTGCAAGCGCGGCGCATACCAACCACTTACTTCGAGCAGCGCGCAACAAACCGGCGGAC 3799
Db 62 GCCTGCAAGCGCGGCGAGGATCCCAACCGTACTGCTGGAGCAGCGGAGCAAGCCCGCGTC 121
Qy 3800 GCGCTATGTGTTTGGAGCAGTGGCTTTTACCTTCGATTCGCGGAGCCACCGGTGATCACCG 3859
Db 122 GGGCTACGCTCGCATGACCAAGGCTTTTACCTTCGACGCGGCGCCAGCGGTGATCACCG 181
Qy 3860 ATCCAGCGGCATCGAAGAGTTGTTACGCTGGCAGGAAATCGCTCAGCGATTCACGTCG 3919
Db 182 ATCCTACCGCGCTTGGAGCGCTGTTACCCCTGGCGCGGCGCATGGAGGATTCAGTCGA 241
Qy 3920 AGCTGATGCGGTAACCGCCCTTCTATCGCTCTGCTGGGAAGATGGCAACAGCTTGATT 3979
Db 242 GGCTGCTGCGGTAAACCCCTTCTACCGACTCTGCTGGAGTCGGGAAGACCCCTCGACT 301
Qy 3980 ACGACAATAATCAGCCGCTGCTGAGCAGCAGATCGCCACGTTCAATCCGCAAGATGTAG 4039
Db 302 ATGCTAACGACAGCTTCGAGCTTCAGCGCGCAGATTAACCCAGTTCAACCCCGCGCAGTCG 361
Qy 4040 AAGGCTATCGTCAATTTCTTGCCTTATTCAGTGAAGTATTTAGAGAGGTTATCTGAAAC 4099
Db 362 AGGCTACCGGCGCTTCTGCTTACTCCAGGCGGTATTCAGAGAGGATATTTTGCCTC 421
Qy 4100 TCGGCAAGTGGCGCTTCTGAGGTGGTGACATGCTGCGCTCGCGCGCAGTTGGGAC 4159
Db 422 TCGGCAAGTGGCGCTTCTGCTTCTGCGCATGCTGCGCGCGCGCGCAGTGTCTTA 481
Qy 4160 GTCTGCAAGCATGGCGAGCTCTACAGCATGTTGGGGAATTTATTCAGACGATCATC 4219
Db 482 AGCTCCAGGCGTGGCAGAGCTCTACCAAGTCGTTTCGCGCTTTATTGAGGATGAGCATC 541
Qy 4220 TGGCTCAGGCGTTTCTTCCACTCATTTGCTGGGCGGTAATCTCTTTTTCGCAACGTCA 4279
Db 542 TGGCGCAGGCGCTTCTGCTTCCACTCCCTGCTGGTAGGCGGCAACCCCTTCACCACTGT 601
Qy 4280 CGATCTATACCTTAATTATCATGCGCTGGAGCGTGAATGGGCGGTGTGTGTTTCGCGCGGCG 4339
Db 602 CCATCTACACCTGATCCACGCCCTTGAAGCGGAGTGGGGGTCTGGTTCCCTGAGGCGC 661
Qy 4340 GCACCGGCGCTGGTGAGGGGATGGCGCATGTTTCGAGCATCTTGGGCGCGCGAGCTGT 4399
Db 662 GCACCGGCGCTGGTGAAACCGCATGTTTACCGATCTGGGCGGGGAGATCG 721
Qy 4400 TACTGAATGCCGAAGTAGCCAGCTGGAAACACAGCGCAATCGCATTAGCGCGTTCAGT 4459
Db 722 AACTCAACGCCCGGTGGAAGAGCTGGTGGTGGCGGATTAACCGGTAGACCGAGTCCCGCG 781
Qy 4460 TAGAGGCGGACGAGCTTCGATGCGCGCTGTGGCTTCCCAATGCGCGAGTGGTGCAT 4519
Db 782 TCGCGGATGGTGGATCTTTTGACACCGACGCGGTAGCTCTGAAACGCTGACGTGGTGAACA 841
Qy 4520 CCTAGCAAAACTGCTTCGCCACCATTCGCTGGCAATGAACGTCGCGCATCGCTGAAGC 4579
Db 842 CCTATAAAAGCTGCTCGGCACCATACCGGTGGGCGAGAGCGGCGCGCACCGCTGGAGC 901
Qy 4580 GTAAGCGCATGAGCAACTCGCTGTTTGTACTTATTTTGGCTGTAATCAGCGCGCATGAAC 4639
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Db 902 GCAAGAGCATGAGAACTCGCTGTTGTGCTCTACTTCGGGCTGAACACGAGCTCATTC 961
Qy 4640 AGCTCGGCGCACACACCGTCTGTTTGGCCGCGTTATCGTGAGTTGATCGATGAGATTT 4699
Db 962 AGCTGGGCGACCATACCATCTGTTTGGTCCCGCTACCGGGAGCTGATCGACGAGATCT 1021
Qy 4700 TCAACAGCAGCAGCTGGCAGAGATTTTTCACCTTTACCTTCACGCGCCCTGACGAGCG 4759
Db 1022 TTACCGGCGAGCGCTGGCGGATGACTTCTCGCTCTACCTGCACTCGCCCTGCGTGACG 1081
Qy 4760 ATCCGTGCTGGACCGCCCGCTGGCGGAGCTTTTATGTTAGTGGCGGCTGCGGATC 4819
Db 1082 ATCCCTGCTGGCGCCCTCCCGCTGCGCCAGCTTCTAGTGCTGCGCCCGCTGCGGATC 1141
Qy 4820 TCGGACCGCTGACATGACCTGGCAACAGGAAGACCGCGCTTCGCGGATCGAATTTTG 4879
Db 1142 TTGGCAAGCGCCGCTGACTGGGCGCAGGAGGGCGGAAGCTGCGGACCGCATCTTTG 1201
Qy 4880 CTTATCTGGAGCAGCATTACATGCGGGATTAACGTACGCAATTAAGTGACACACAGAATGT 4939
Db 1202 ACTACCTTGAAGAGCGCTATATGCCCGCTGCGTAGCCAGCTGTTGACCCAGCGATCT 1261
Qy 4940 TTAGCCGCTTGTATTTTCGGACACGCTGCATGCCATCAGCGCTCGGCGTTTTCGCTGG 4999
Db 1262 TTACCGGCGAGACTTTCACGACACGCTTGGATCGCGATCTTGGGATCGCTTTTCATCGAGC 1321
Qy 5000 AGCCGATTTTACCAAGCGCTGTTTCGCCCGCATACCGCGATCCGATATACGA 5059
Db 1322 CGCTTCGTTGACCAAGCTTGTTCGCGCAAAAGCGACACGACATTC-----AA 1372
Qy 5060 ATCTCTATCTGGTGGTGGTGGTACGATCAGCATCCAGCGCGGGCGTCCCGGCGTGTATCGTT 5119
Db 1373 ACCTCTACCTGTTGGCGCGAGTACTCACTTGGCGGGGATTCCTGGGCTAGTGGGCC 1432
Qy 5120 CGGCCAAGGCCACCGCAGGCTGATGCTGGAGGATTCGGCGGAAATGAATCGACGCTTT 5179
Db 1433 TCGCGGAAAGCACCGCAGCGCTGATGATGAGGATC---TGCAATGAGCAACCGCGCT 1489
Qy 5180 ACTTGACCAAGTACGCAAAACCATGGC 5206
Db 1490 GCTTGACCAAGCGCAGACCATGGC 1516

RESULT 12

US-08-095-726-9
; Sequence 9, Application US/08095726
; Patent No. 5530188
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L
; APPLICANT: Brinkhaus, Friedhelm L
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H
; APPLICANT: Yarger, James G
; APPLICANT: Yen, Hui-Che B
; TITLE OF INVENTION: Beta-Carotene Biosynthesis in
; OPERATING SYSTEM: Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 79
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Amoco Corp., Patents and Licensing Dept
; STREET: 200 E Randolph St
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60680-0703
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.24
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/095,726
; FILING DATE: 21-JUL-1993

; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/785,566
; FILING DATE: 30-OCT-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Galloway, No. 5530188val B
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 3128567180
; TELEFAX: 3128564972
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1522 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; US-08-095-726-9

Query Match 10.1%; Score 708.4; DB 2; Length 1522;
Best Local Similarity 67.6%; Pred. No. 1.2e-172;
Matches 1029; Conservative 0; Mismatches 481; Indels 12; Gaps 2;

Qy 3685 ATGAAACGCACTTATGTGATTTGGCGAGGCTTTGGCGGCTTGGCGCTTGGCGATTCGCGCTG 3744
Db 11 ATGGAATAAAACCGTTGTGATTGGCGCAGGCTTTGGTGGCTTGGCGCTTGGCGATTCGCGCTG 70
Qy 3745 CAAGCGCGGCGCATACCAACACCTTACTCGAGCAGCGCAGCAACCGGCGGAGCGGCC 3804
Db 71 CAGCGCGCAGGATCCCAACCGTACTGCTGGAGCAGCGGCAAGCCGCGGCTGGGCC 130
Qy 3805 TATGTGTTTGGAGCAGTGGCTTTTACCTTCGATGCGGACCCACCGTGATCACCGATCCC 3864
Db 131 TAGCTCTGGCATGACCAAGGCTTTTACCTTTGACCGCGCGGCGAGTGATCACCGATCCT 190
Qy 3865 AGCGCCATCAAGAGTTGTTTACGCTGGCAGGAAATTCGCTCAGCGATTTAGCTCAGCTG 3924
Db 191 ACCGCGTTGAGGCGCTGTTTACCCCTGGCGGCGAGCGCATGGAGGATTTAGCTCAGGCTG 250
Qy 3925 ATCCGCTAACGCCCTTCTATCGCTGCTGGGAGATGCGCAACAGCTTGATTAGCAC 3984
Db 251 CTGCGGTAACACCTTCTTACCGACTCTGCTGGGAGTCCGCGGAAGACCTTCGACTATGCT 310
Qy 3985 AATAATCAGCGCTGCTGGAGCAGCAGATCCGACAGTTTCAATCCGCAAGATGTAGAAAGGC 4044
Db 311 AACGACAGCTTCGAGCTTTGAGCGCGAGATTACCCAGTTCAACCCCGCGAGCTCGAGGC 370
Qy 4045 TATCGTCAATTTCTTGCCTATTTCAGTGAAAGTATTATTAGAGAGGTTTATGAAACTCGGC 4104
Db 371 TACCGCGCTTCTGCTTACTCCAGCGGCTATTCCAGAGGAGATATTTCGCGCTCGGC 430
Qy 4105 ACGTGCGCTTTCTGCAAGTTCGAGTTCGCTGCGCTGCGCGCTGCGCGAGTTGGGAGCTG 4164
Db 431 AGCGTGCGGTTCTCTCTTTTCGCGACATGCTGCGCGCGCGGCGCGAGCTGCTTAAAGCTC 490
Qy 4165 CAAGCATGGCGCAGCGCTTACAGCATGTTGGCGAAATTTATTTCAGGACGATCATCTCGCT 4224
Db 491 CAGCGTGGCAGAGCGCTTACCAAGTTCGCTTTCGCGCTTTATTGAGGATGAGCATCTCGG 550
Qy 4225 CAGCGTTTCTTCCACTCATTTGCTGGGCGGTAATCTTTTTCGAAAGTATCATCATC 4284
Db 551 CAGCGCTTCTGCTTCCACTCCCTGCTGTTAGGCGGCAACCCCTTTCACACCTCTGCTCCATC 610
Qy 4285 TATACCTTATTTTATGAGCGCTGATGAGGCGTGTGTTTCCGCGCGGCGGCGCACC 4344
Db 611 TACACCTGATCCACGCCCTTGGAGCGGAGTGGGGGCTCTGGTTTCCCTAGGCGGCGCACC 670
Qy 4345 GGCGCGCTGGTTCAGGCGCATGCGCGACTCTTTCAGGACTTTGGCGCGCGAGCTGTTTACTG 4404
Db 671 GGCGCGCTGGTGAACGGCATGGTGAAGCTGTTTACCGATCTGGCGCGGAGATCGAATC 730
Qy 4405 AATGCCGAAGTGAAGCAGCTTGAACCAACGCGCAATTCGCAATTAAGCGCGCTTCAAGTTAG 4464
Db 731 AACGCCCGGCTCGAAGAGCTGGTGGTGGCGGATAACCGCGCTAAGCCAGGTCGCGCTCGCG 790

Qy	4465	GGGGAGCAGCGCTTCGATGCGCGCGTGTGGCTTCCAATCCGACGTGGTGCATACCTAC	4524
Db	791	GATGGTCCGATCTTTGACACCGAGCGCGTAGCTCGAAGCGCTGAGTGGTGAACCTAT	850
Qy	4525	GACAAACTGTTCCGCCAACCATCCGCTGGCAATGAACGTCGGACATCGCTGAAGCGTAAAG	4584
Db	851	AAAAAGCTGCTCGCACCATACCGTGGGCGAAGCGGGCGGACACGCTGGAGCGCAAG	910
Qy	4585	CGCATGAGCAACTCGCTGTTGTACTCTATTTTGGCCTGAATCAGCGCGCATGAACAGCTC	4644
Db	911	AGCATGAGCAACTCGCTGTTGTGCTCTACTTGGCTGAACACAGCCTCATCTCCAGCTG	970
Qy	4645	GCGCACCAACCGCTCTGTTTGGCCCGCTTATCGTGAGTTGATTCGATGAGATTTTTCACAC	4704
Db	971	GCGCACCAATACCATCTGTTTGGTCCCGCTACCGGGAGCTGATCGACGAGATCTTTTACC	1030
Qy	4705	AGCAGCAGCTGGCAGACGATTTTTCATCTTAACTGTCAACGCGCCCTGCACGACGATCCG	4764
Db	1031	GGCAGCGCTGGCGGATGACTTCTCGCTCTACTGCACTCGCCCTCGCTGACCGATCCC	1090
Qy	4765	TCGCTGCGACCGCCCGGCTCGGGCAGCTTTTATGTGTATTAGGCGCGGTGCCGCATCTCGGC	4824
Db	1091	TCGCTCGCGCTCCCGCTGCGCCAGCTTCTACGTGCTGCGCCCGGTGCCGCATCTTGGC	1150
Qy	4825	ACCGCTGACATCGACTGCGCAACGAGAAAGGACCGCGCTTGC CGCATCGAAATTTTTCGTAT	4884
Db	1151	AACCGCGGCTGGACTTGGCGCAGGAGGGCGCGAAGCTGCGGACCGCATCTTTGACTAC	1210
Qy	4885	CTGAGCAGCACTACATGCCGGGATTACGTGAGCAATTAGTGAACACAGAAATGTTTACG	4944
Db	1211	CTTGAAGCGCTATATGCCCGGCTGGTAGCCAGCTGGTGACCCAGCGGATCTTTTACC	1270
Qy	4945	CCGTTTGATTTTCGGACACAGCTGCATGCCCATCACCGCTCGGGCTTTTCGCTGGAGCCG	5004
Db	1271	CGGCAGACTTCACGACACGCTTGGATCGCATCTTGGGATCGCTTTTTCATCGAGCCGCT	1330
Qy	5005	ATTTTGACGCAAGCGGCTGGTTCCGCCCGCATAACCGCATGCGGATATCAGCAATCTC	5064
Db	1331	TCGTTGACCCAAAGGCTTGTTCGCCCGCAAAACGCGACACGACATTC-----AAAGCTC	1381
Qy	5065	TATCTGGTGGGTGCGGTAGCATCTCAGGCGCGGGCTGCGCGCGGTGATCGGGTTCGGCC	5124
Db	1382	TACCTGGTGGCGCAGGTACTCACCTTGGCGCGGGCATTCCTGGCGTAGTGGGCTCGCC	1441
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Qy	5185	AGCAAGTAACGCAACCATGGC	5206
Db	1499	ACCACGCCACCTCGACCATGGC	1520

RESULT 13

US-08-096-043-9
; Sequence 9, Application US/08096043
; Patent No. 5530189

; PACIFIC NO. 3530189
: GENERAL INFORMATION:

GENERAL INFORMATION:
APPLICANT: AUSICH, Rodney L.
APPLICANT: Brinkhaus, Friedhelm L
APPLICANT: Mukharji, Indrani
APPLICANT: Proffitt, John H
APPLICANT: Yarger, James G
APPLICANT: Yen, Huel-Chue B
TITLE OF INVENTION: Lycopene Biosynthesis in Genetically Engineered Hosts
NUMBER OF SEQUENCES: 70
CORRESPONDENCE ADDRESS:
ADDRESSER: Amoco Corp., Patents and Licensing Dept
STREET: 200 E Randolph St
CITY: Chicago
STATE: IL

Db 611 TACACCTGATCCACCGCTTGTAGCGGAGTGGGGGTCTGGTCCCTGAGCGCGCAC 670
Qy 4345 GCGCGCTGTGCGAGGATCGCGACTGTTTCGAGGACTTGGCGGAGCTGTTACTG 4404
Db 671 GGGCGCTGTGTAACCGGATGTAAGCTGTTTACCGATCTGGCGGGGAGATCAATC 730
Qy 4405 AATCCGAAGTGAGCAGCTGGAACACGAGCGCAATCGCATTAGCGGCTTCAGTTAG 4464
Db 731 AACGCCGGTTCGAAGAGCTGTGTGGCCGATTAACCGGTAAGCCAGTCCGCTCG 790
Qy 4465 GCGCGAGACCTTCGATGCGCGCTGTGCGCTTCAATGCGAGCTGGTGCATACCTAC 4524
Db 791 GATGTCGGATCTTTGACACCGACCGCGCTAGCTCGAACGCTGCTGTAACACCTAT 850
Qy 4525 GACAACTGCTTCGACCATCTGCTGCAATGAAACGTCGACATCGCTGAAGCGTAAG 4584
Db 851 AAAAGCTGCTCGGACCATACCGTGGGAGAGAGCGGCGGACGCTGGAGCGCAG 910
Qy 4585 CGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCTTGAATCAGCGCATGAACAGCTC 4644
Db 911 AGCATGAGCAACTCGCTGTTTGTCTACTTTCGCTTGAACAGCTCATTTCCAGCTG 970
Qy 4645 GCGACACACCTGCTGTTTGGCGCGCTTATCGTGAGTTGATCGATGAGATTTTCAAC 4704
Db 971 GCGACCATACCATCTGTTTGGTCCCGCTACCGGAGCTGATCGACGATCTTTACC 1030
Qy 4705 AGCAGCAGCTGGCAGAGATTTTCACTTTCATCTGACGCGCTTCGACGAGGATCCG 4764
Db 1031 GCGAGCGCTGGCGAGATCTTCTGCTCTACTGCACTGCGCTGCGCTGCGTACCGATCC 1090
Qy 4765 TCGTGGCAGCGCGCTGGCGAGCTTTTATGTTAGCGCGCTGCGCATCTCGGC 4824
Db 1091 TCGCTCGCGCTCCCGCTGCGCAGCTTCTACGTGCTGGCGCGCTGCGCATCTTGGC 1150
Qy 4825 ACCCTGACATCGATGCGAACAGAGAGCGCGCTTTCGCGATCGAATTTTGTCTTAT 4884
Db 1151 AACCGCGCTGGACTGGCGCAGAGGGCGGAGCTGCGCAGCGCATCTTTGACTAC 1210
Qy 4885 CTGAGCAGCACTACATCGCGGATAGCTCAGCAATTTAGTGACACAGATCTTTACG 4944
Db 1211 CTGAGAGCGCTATATGCGCGGCTGCGTACGAGCTGTTGACCGCGATCTTTACC 1270
Qy 4945 CCGTTTGTATTCGCGACACCTGATGCGCTGCGCTGCGCTGCTGCGAGCG 5004
Db 1271 CGCAGACTTACGACAGCTTGTGATCGGATCTTGGATGCTTTTATCGAGCGCT 1330
Qy 5005 ATTTGAGCAAGCGCTGTTTCGCGCGCATTAACCGCGATCGGATATCAGCAATCTC 5064
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Qy 5065 TATCTGTTGGTGGCTGAGCATCCAGCGCGGCTGCGCGGCTGATCGGTTTCGCC 5124
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Qy 5125 AAGCCACCGCGCTGATCTGAGGATCGCGCGCAATGAATCGACAGCTTTTACTTG 5184
Db 1442 GAAGCAGCGCGCAGCTGATGATGAGGATC---TGCAATGAGCAACCGCGCTGCTTG 1498
Qy 5185 AGCAAGTAACGCAAAACCATGCG 5206
Db 1499 ACCACGCGAGCTGACCATGCG 1520

RESULT 14

US-08-096-623A-9
; Sequence 9, Application US/08096623A
; Patent No. 5684238
; GENERAL INFORMATION:
; APPLICANT: Ausich, Rodney L.
; APPLICANT: Brinkhaus, Friedhelm L.
; APPLICANT: Mukharji, Indrani
; APPLICANT: Proffitt, John H.

; APPLICANT: Yarger, James G.
; APPLICANT: Yen, Hwei-Che B.
; TITLE OF INVENTION: Biosynthesis of Zeaxanthin and
; TITLE OF INVENTION: Glycosylated Zeaxanthin in Genetically Engineered Hosts
; NUMBER OF SEQUENCES: 104
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Welsh & Katz, Ltd.
; STREET: 120 S. Riverside Plaza, 22nd Floor
; CITY: Chicago
; STATE: IL
; COUNTRY: USA
; ZIP: 60606
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/096,623A
; FILING DATE: 22-JUL-1993
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/805,061
; FILING DATE: 09-DEC-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/662,921
; FILING DATE: 28-FEB-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/562,674
; FILING DATE: 03-AUG-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/525,551
; FILING DATE: 18-MAY-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/487,613
; FILING DATE: 02-MAR-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Gamson, Edward P.
; REGISTRATION NUMBER: 29,381
; REFERENCE/DOCKET NUMBER: AMO-006.1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (312) 655-1501
; TELEFAX: (312) 655-1501
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1522 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; POSITION IN GENOME:
; MAP POSITION: -10 to 1512
; UNITS: bp
; US-08-096-623A-9

Query Match 10.1%; Score 708.4; DB 2; Length 1522;
Best Local Similarity 67.6%; Pred. No. 1.2e-172;
Matches 1029; Conservative 0; Mismatches 481; Indels 12; Gaps 2;
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Qy 3745 CAAGCGCGGCGCATACCAACACCTTACTCGAGCAGCGCGCAACACCGGCGGAGCGGCC 3804
Db 71 CAGCGCGCAGGAGTCCCAACCGTACTCTGAGCAGCGGGAACAAGCCGCGGTTCGCGGCC 130
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Db 131 TACGTCTGGCATGACAGGCTTTTACCTTTGACGCGCGGCGGAGCGGTGATCACCAGTCCCT 190
Qy 3865 AGCGCCATCGAAGAGTTGTTTACGCTCGCAGGAAATCGCTCAGCGATTACGTCAGCTG 3924

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Db 191 ACCGCGCTTGGGGCTGTTTCAACCTCGCGCGGCGCATGAGGATTAGTCAGCGTG 250
Qy 3925 ATGCGGTAAAGCCCTTCTATCGCTGTGCTGGGAAGATGCAAAAGCTTGATTACGAC 3984
Db 251 CTGCGGTAAAGCCCTTCTACCGACTCTGCTGGAGTCCGGAAGACCTTCGACTATGCT 310
Qy 3985 AATAATCAGCGCTGCTGGAGCAGCAGATCGCCAGCTTCAATCGCAAGATGTAGAAGC 4044
Db 311 AACGACAGCTTCAGAGCTTGAGGGCGAGATTACCCAGTTCAACCCCGCGAGCTGAGGGC 370
Qy 4045 TATCGTCAATTTCTTGCTATTACAGTGAAGTATTTAGAGAGGTTATCTGAAACTCGGC 4104
Db 371 TACGGGCTTTCTGGCTTACTCCAGCGGTATTTCCAGAGGATATTTGCGCCTCGC 430
Qy 4105 ACGGTGCGCTTCTGCAAGTTCGCTGCAATGCTGCGCTCGCGCGCAGTTGGAGAGTCTG 4164
Db 431 AGGTGCGCTTCTCTCTCTTTTCGCGACATGCTGCGCGCGCGCGCGAGCTGCTTAAGCTC 490
Qy 4165 CAAGCATGCGCAGCGTCTACAGCATGCTGGCGAATTTATTCAGGACGATCATCTCGGT 4224
Db 491 CAGCGTGGCAGAGCGTCTACAGTCTGGTTTCGCGCTTTATTTAGGATGAGCATCTCGG 550
Qy 4225 CAGCGCTTTCTTCCACTCATCTGCTGGCGGTAATCTTTTGCAAGTTCATCGATC 4284
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Qy 4285 TATACCTTAATTCATGCGCTGGAGCTGAATGGGCGTGTGGTTTCGCGCGCGGCACC 4344
Db 611 TACACCCTGATCCACGCGCTTGAGCGGAGTGGGGGTCTGGTTCCCTGAGGCGGCACC 670
Qy 4345 GCGCGCTGTGAGGCGATGCGCGACTGTTTCAGGACTTGGCGCGGAGCTGTTACTG 4404
Db 671 GGGCGCTGTGGAACGCGATGTTGAAGCTGTTTACCATCTGGCGGGGAGATCGAACTC 730
Qy 4405 AATGCCAAGTAGCAGCTGGAACACGCGCAATCGCATTAGCGCGTTCAGTTAGAG 4464
Db 731 AACGCCGGTTCGAGAGCTGGTGGCCGATTAACCGGTGAACGAGTCCGGCTCGG 790
Qy 4465 GCGGACGAGCTTTCGATGCGCGCTGTGGCTTCCAAATCCGACGTTGGTGCACTAC 4524
Db 791 GATGTCGGATCTTTGACACGCGCGCTAGCTCGAAGCTGACGTGGTGAACACCTAT 850
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Db 851 AAAAGCTGCTCGGACATACACCGTGGGAGAGCGGGCGGACCGCTGGAGCGAAG 910
Qy 4585 CGCATGAGCAACTCGCTGTTTGTACTCTATTTGGCCTGAATCAGCGCATGAACAGCTC 4644
Db 911 AGCATGAGCAACTCGCTGTTTGTGCTCTACTTCGCGCTGAACAGCTCATTTCCAGCTG 970
Qy 4645 GCGCACACACCGTCTGTTTGGCCCGGTTATCGTGAGTTGATGATGAGATTTTCAAC 4704
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Db 1031 GGCAGCGCTGGGCGATGATCTTCGCTTCTACCTGCACTCGCCCTGCGTACCGCTCC 1090
Qy 4765 TCGCTGGCACCGCGCTGGCGAGCTTTTATGTTTGTAGCGCGGTCGCCCATCTCGGC 4824
Db 1091 TCGCTCGGCTCTCCCGTGGCCAGCTTCTACGTGGCCCGCGTGGCCCATCTTGGC 1150
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Qy 4885 CTGAGAGCACTACATCGCGGATTAGCTCAGCAATTAGTGACACACAGAAATTTTACG 4944
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Db 1271 GCGCAGACTTCACGACAGCTTGGATCGCGATCTTGGGATCGCTTTTTCATCGAGCGCGCT 1330

RESULT 15
US-08-660-645A-6
; Sequence 6, Application US/08660645A
; Patent No. 6087152
; GENERAL INFORMATION:
; APPLICANT: Hohmann, Hans-Peter
; APPLICANT: Pasamontes, Luis
; APPLICANT: Tessier, Michel
; APPLICANT: van Loon, Adolphus
; TITLE OF INVENTION: FERMENTATIVE CAROTENOID PRODUCTION
; NUMBER OF SEQUENCES: 47
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: NJ
; COUNTRY: USA
; ZIP: 07110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: IBM PC compatible
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/660,645A
; FILING DATE: 07-JUN-1996
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: EP 95108888.9
; FILING DATE: 09-JUN-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Pokras, Bruce A.
; REGISTRATION NUMBER: 32,748
; REFERENCE/DOCKET NUMBER: RAN 6002/170
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (201) 235-5801
; TELEFAX: (201) 235-2363
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1482 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; US-08-660-645A-6

Query Match 8.8%; Score 619.4; DB 3; Length 1482;
Best Local Similarity 63.7%; Pred. No. 1.2e-149;
Matches 941; Conservative 0; Mismatches 536; Indels 0; Gaps 0;

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Db 1 ATGAGTTCCGCCATCGTCATCGGCGAGGTTTCGCGGGGCTTGGCTTGGCATCGCGCTG 60
Qy 3745 CAAGCGCGGGCATACCAACCATTTACTCGAGCAGCGCAACACCGGGCGGACGCGCC 3804
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Qy 3865 AGCCCAATCGAAGAGTTGTTTCACGCTGCGCAGGAAATCGCTCAGCGATTAGCTGAGCTG 3924
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Qy 3985 AATAATCAGCCGCTGTGGAGCAGCATCGCCACGTTTCAATCGCAAGATGTAGAAGGC 4044
Db 301 AACGACGACGAGCTGATCCGCGAGGTGCGCTTCTTCAATCGCGGATGTCGATGBC 360
Qy 4045 TATCGTCAATTTCTTGCTATTCACGTGAAGTATTTAGAGAGGTTATCTGAATCTCGC 4104
Db 361 TATCGCGCTTCCACAGATTACGCGGAGAGGTCTATCGGAGGGGTATCTGAAGCTGGG 420
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Qy 4825 ACCGCTGACATCGATGGCAACAGGAAGGACCGCGCTTGGCGCATCGAATTTTGTCTAT 4884

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Db 1201 CTGAGAGCGCGGCCATCCCGACCTGCGCAAGCACTGACCGTACGCGCATCTTCAGC 1260
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Db 1261 CCGSCCGATTTTCAGCACCGAACTGTGCGGCCCATCAAGCGAGCGCTTCTCGGTGAGCG 1320
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Qy 5065 TATCTGCTGGGTGCGGTTACGCAATCCAGGCGCGGCGTGCCTGCGGCTGATCGGTTTCGSCC 5124
Db 1381 TACATGCTGGGGGCGGACGCAATCCGGTTCGCGGCAATCCGGGTGCTGTTGGCAGCGCC 1440
Qy 5125 AAGGCCACCGCCAGGCTGATGCTGGAGGATCGGCGCG 5161
Db 1441 AAGGCCACCGCGCAGGTTCATGCTGTCGACCTGSCCG 1477

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GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: November 24, 2005, 20:30:31 ; Search time 4690 Seconds
(without alignments)
12340.592 Million cell updates/sec

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Perfect score: 6999
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Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 9793542 seqs, 4134689005 residues

Total number of hits satisfying chosen parameters: 19587084

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	6999	100.0	6999	8	US-10-808-979-18
2	4326.2	61.8	8675	8	US-10-804-677-18
3	2619.6	37.4	8609	7	US-10-735-008-43
4	2619.6	37.4	8609	8	US-10-735-019-28
5	2619.6	37.4	8609	8	US-10-734-778-40
6	2619.6	37.4	8609	8	US-10-734-936-37
7	2619.6	37.4	8609	8	US-10-735-442-64
8	2619.6	37.4	8609	8	US-10-886-906-54
9	2619.6	37.4	8609	9	US-10-987-524-49
10	2533.4	36.2	9127	8	US-10-810-733-20
11	2138.6	30.6	8814	8	US-10-808-807-18
12	2138.6	30.6	8814	9	US-10-997-844-41
13	2138.6	30.6	8814	10	US-11-015-433-12
14	2135.2	30.5	12753	7	US-10-041-018-19
15	1661.4	23.7	5632	9	US-10-997-844-6
16	1661.4	23.7	5632	10	US-11-015-433-15
17	1618.8	23.1	7494	8	US-10-474-536-45
18	1618.8	23.1	8547	8	US-10-474-536-46
19	1593.2	22.6	3611	9	US-10-997-844-36
20	1482	21.2	1482	8	US-10-808-979-7
21	1278	18.3	1278	8	US-10-808-979-3
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23	1085.2	15.5	1482	8	US-10-804-677-7

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C	26	1035.4	14.8	11233	3	US-09-920-923-27	Sequence 27, Appl
C	27	1035.4	14.8	11233	7	US-10-695-980-27	Sequence 27, Appl
	28	930	13.3	930	8	US-10-808-979-9	Sequence 9, Appli
	29	906	12.9	906	8	US-10-808-979-1	Sequence 1, Appli
	30	887	12.7	1482	8	US-10-810-733-9	Sequence 9, Appli
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	32	861.4	12.3	1479	9	US-10-808-807-7	Sequence 7, Appli
	33	810.2	11.6	1479	9	US-10-987-524-17	Sequence 17, Appl
	34	808.6	11.6	1479	3	US-09-941-947A-31	Sequence 31, Appl
	35	808.6	11.6	1479	6	US-10-218-118-7	Sequence 7, Appli
	36	808.6	11.6	1479	7	US-10-363-567-31	Sequence 31, Appl
	37	808.6	11.6	1479	7	US-10-466-656-7	Sequence 7, Appli
	38	808.6	11.6	1479	8	US-10-735-008-7	Sequence 7, Appli
	39	808.6	11.6	1479	8	US-10-735-019-7	Sequence 7, Appli
	40	808.6	11.6	1479	8	US-10-734-778-7	Sequence 7, Appli
	41	808.6	11.6	1479	8	US-10-735-442-7	Sequence 7, Appli
	42	808.6	11.6	1479	8	US-10-886-307-7	Sequence 7, Appli
	43	808.6	11.6	1479	8	US-10-886-906-7	Sequence 7, Appli
	44	808.6	11.6	1479	9	US-10-987-524-7	Sequence 7, Appli
	45	805.4	11.5	1479	9	US-10-987-524-19	Sequence 19, Appl

ALIGNMENTS

RESULT 1
US-10-808-979-18
; Sequence 18, Application US/10808979
; Publication No. US20040268439A1
; GENERAL INFORMATION:
; APPLICANT: E.I. duPont de Nemours and Company, Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2360 US NA
; CURRENT APPLICATION NUMBER: US/10/808,979
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; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 6999
; TYPE: DNA
; ORGANISM: Enterobacteriaceae strain DC260
US-10-808-979-18

instant

Query Match	100.0%	Score 6999;	DB 8;	Length 6999;
Best Local Similarity	100.0%;	Pred. No. 0;		
Matches 6999;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0;
Qy	1	GCAGTGCATGAAATGTTGGTGGCTTAACCTGCGGCATCAGCGGCTGAA	60	
Db	1	GCAGTGCATGAAATGTTGGTGGCTTAACCTGCGGCATCAGCGGCTGAA	60	
Qy	61	TAATCAGCAGCGGAGTTGGTATTCGTCATTTATTTGTCATTTATTTTAC	120	
Db	61	TAATCAGCAGCGGAGTTGGTATTCGTCATTTATTTGTCATTTATTTTAC	120	
Qy	121	CACGAGCTAACCGAGTTATTTATTTACCGGCTGCTGCTACTATTTCGCTAATAAGA	180	
Db	121	CACGAGCTAACCGAGTTATTTATTTACCGGCTGCTGCTACTATTTCGCTAATAAGA	180	
Qy	181	TCAGCATAGCATTTATTAACAATTTTACCTGGTGGCATGAATACGACCCCTACAAGT	240	
Db	181	TCAGCATAGCATTTATTAACAATTTTACCTGGTGGCATGAATACGACCCCTACAAGT	240	
Qy	241	CAAGTCCCTCGCTGGCGAATCACTTACGAGTCTACGGTTAATCAAAAGCAATAAAA	300	
Db	241	CAAGTCCCTCGCTGGCGAATCACTTACGAGTCTACGGTTAATCAAAAGCAATAAAA	300	

Db 241 CAAGTCCCTCGCTGGCGAACTCACCTTACGAGTCTACGGTTAATCAAAAGCATAAAA 300
Qy 301 TTTCACCAACATGATGAGCAATATGACACACCCATGTGACACCAACAGACATACAGACA 360
Db 301 TTTCACCAACATGATGAGCAATATGACACACCCATGTGACACCAACAGACATACAGACA 360
Qy 361 AGCGAACTCTTACAGCTGACAGCAATTTTACAGCGCATCTTGAACATTTACTTGCCTGCC 420
Db 361 AGCGAACTCTTACAGCTGACAGCAATTTTACAGCGCATCTTGAACATTTACTTGCCTGCC 420
Qy 421 GGACAGAAAGCAGATCGCTGCTGCGCGCATGCTGCCGAAACGCTGGCGCAGGGCAAA 480
Db 421 GGACAGAAAGCAGATCGCTGCTGCGCGCATGCTGCCGAAACGCTGGCGCAGGGCAAA 480
Qy 481 CGTATTCGTCTTTATTTACTGCTGCTGCGAGCGCATCTTGAACATTTACTTGCCTGCC 540
Db 481 CGTATTCGTCTTTATTTACTGCTGCTGCGAGCGCGCATATGGGTTGCGAGCTGACGCAA 540
Qy 541 AATGGCGTTCTCGATCTCGCTGCTGCGAGTGGAAATGGTGACCGGGCATCGCTGATTCG 600
Db 541 AATGGCGTTCTCGATCTCGCTGCTGCGAGTGGAAATGGTGACCGGGCATCGCTGATTCG 600
Qy 601 GATGACATTCCTCGATGGAATAACGCGCAGATGCTGCTGCTGCCCTACCGTGCAATCGC 660
Db 601 GATGACATTCCTCGATGGAATAACGCGCAGATGCTGCTGCTGCCCTACCGTGCAATCGC 660
Qy 661 GAATTTGGTGAAGACGTGGCGAATCTCGCGCCATGCGCTGCTTAGCGCGCATTTGAA 720
Db 661 GAATTTGGTGAAGACGTGGCGAATCTCGCGCCATGCGCTGCTTAGCGCGCATTTGAA 720
Qy 721 GTGATGGCATTTGACCCGGTTTGGCTGCCATACATAAATCTGAAGCATTTGCTGAATC 780
Db 721 GTGATGGCATTTGACCCGGTTTGGCTGCCATACATAAATCTGAAGCATTTGCTGAATC 780
Qy 781 TCCGCTGCGCTGCGCTGACGGCTTAGTGCAAGGCAATTCAGGATCTGACAGCGGC 840
Db 781 TCCGCTGCGCTGCGCTGACGGCTTAGTGCAAGGCAATTCAGGATCTGACAGCGGC 840
Qy 841 ACGCAGAGCCGACCGCGGAAGCATGCGCCATGACCAAGAACTGAAACACAGCGTGCTG 900
Db 841 ACGCAGAGCCGACCGCGGAAGCATGCGCCATGACCAAGAACTGAAACACAGCGTGCTG 900
Qy 901 TTTCGCGCCAGCTGCAAAATGCGCGGATTCGCGCTGACGCTTACCGCAGGTGGGCAA 960
Db 901 TTTCGCGCCAGCTGCAAAATGCGCGGATTCGCGCTGACGCTTACCGCAGGTGGGCAA 960
Qy 961 AGACTTAGCTTTCTCGCCAGGATTTGGGCCAGGCGTTTCAACTGCTCGACGACTCGCC 1020
Db 961 AGACTTAGCTTTCTCGCCAGGATTTGGGCCAGGCGTTTCAACTGCTCGACGACTCGCC 1020
Qy 1021 GACGGTTGCAAAACACCGGTAAAGATGTGACACAGGATAGGGGCAATTCACCGTGCTGA 1080
Db 1021 GACGGTTGCAAAACACCGGTAAAGATGTGACACAGGATAGGGGCAATTCACCGTGCTGA 1080
Qy 1081 CAGATGCTCGGTGCTGACGGCGCGAAAGTCCGCTGCGCGATCACCTGCGCAGCGCAGAT 1140
Db 1081 CAGATGCTCGGTGCTGACGGCGCGAAAGTCCGCTGCGCGATCACCTGCGCAGCGCAGAT 1140
Qy 1141 GCACACCTTGTGCGGCTGCGCATCGCGGATCGCCACTCGCCCAATATATGACGCGCTG 1200
Db 1141 GCACACCTTGTGCGGCTGCGCATCGCGGATCGCCACTCGCCCAATATATGACGCGCTG 1200
Qy 1201 TTTAATCAACAGCTAGCGATATTCAACTGAGCGGGCTCAGCGGTGGGCCACTTTGCGG 1260
Db 1201 TTTAATCAACAGCTAGCGATATTCAACTGAGCGGGCTCAGCGGTGGGCCACTTTGCGG 1260
Qy 1261 TGATCGCGCGCGCTCTACAGCCACTTTTACAGGCTTTCAGGCGTTAGACAAGAGCTGC 1320
Db 1261 TGATCGCGCGCGCTCTACAGCCACTTTTACAGGCTTTCAGGCGTTAGACAAGAGCTGC 1320
Qy 1321 TGGCGCGCGCGCATCGCATCACATTCATCCAGCAAGCGGATGCGCGACTTTGTGTAGCG 1380
Db 1321 TGGCGCGCGCGCATCGCATCACATTCATCCAGCAAGCGGATGCGCGACTTTGTGTAGCG 1380

Qy 1381 ACGAACGCATCGATTTTGTTCGCTCGGCCAACAGACGCATCTCTCGCGGTTCTGCTGCGCG 1440
Db 1381 ACGAACGCATCGATTTTGTTCGCTCGGCCAACAGACGCATCTCTCGCGGTTCTGCTGCGCG 1440
Qy 1441 CCGTGTTCATCGGCTGGCTCGCGGGCGGCTGCTGCTGTTTCGCTGATCGACGATC 1500
Db 1441 CCGTGTTCATCGGCTGGCTCGCGGGCGGCTGCTGCTGTTTCGCTGATCGACGATC 1500
Qy 1501 TCGCGTCTTGACACCGATATGCTGTGCGCGAACTGCTGCGGTACTGAAAGCATTTGAACA 1560
Db 1501 TCGCGTCTTGACACCGATATGCTGTGCGCGAACTGCTGCGGTACTGAAAGCATTTGAACA 1560
Qy 1561 TCGCATGCGGTGATCGCGCGACGAAATCGAAGCGCGCGGATTTGCTGCTGAAAGCGCTGC 1620
Db 1561 TCGCATGCGGTGATCGCGCGACGAAATCGAAGCGCGCGGATTTGCTGCTGAAAGCGCTGC 1620
Qy 1621 ATCTGCGGTTTGTTCGCTGCGCTTGCCTTGCCTCAATCGTGAAGCGGGATTTCCGC 1680
Db 1621 ATCTGCGGTTTGTTCGCTGCGCTTGCCTTGCCTCAATCGTGAAGCGGGATTTCCGC 1680
Qy 1681 TTGCGGTGATGCTTCCGTTTTCGATGACAGATGACAAAGCGCTGAAACGTTTTTCAGGCCA 1740
Db 1681 TTGCGGTGATGCTTCCGTTTTCGATGACAGATGACAAAGCGCTGAAACGTTTTTCAGGCCA 1740
Qy 1741 GCAGCATATCTATGATCGCATCATCGTCTGTCACGCGACGATGATCTCAAAACACGCGC 1800
Db 1741 GCAGCATATCTATGATCGCATCATCGTCTGTCACGCGACGATGATCTCAAAACACGCGC 1800
Qy 1801 GCGCGTTTAAATGACGAGCGCGGGATTAATCATAGTCCCTGTCGCCCTCGCACAAA 1860
Db 1801 GCGCGTTTAAATGACGAGCGCGGGATTAATCATAGTCCCTGTCGCCCTCGCACAAA 1860
Qy 1861 TCAGCCAGATGCTGCGCGCTTTGATTTTCCAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAG 1920
Db 1861 TCAGCCAGATGCTGCGCGCTTTGATTTTCCAGTCAAGTCAAGTCAAGTCAAGTCAAGTCAAG 1920
Qy 1921 CCGTGGGGCAGCTCCGCGCGCGGTTTCTCTCGCGCGCTCCATGCGCGCTGCGCGCGCGC 1980
Db 1921 CCGTGGGGCAGCTCCGCGCGCGGTTTCTCTCGCGCGCTCCATGCGCGCTGCGCGCGCGC 1980
Qy 1981 TCGCTCAGCGCGTGTGTTTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 2040
Db 1981 TCGCTCAGCGCGTGTGTTTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 2040
Qy 2041 TTCTGCAATCTGCGCGCAGCGCTGCGCGCATGCTGCGGTATCGCTGCTGATCGCCATTTGTG 2100
Db 2041 TTCTGCAATCTGCGCGCAGCGCTGCGCGCATGCTGCGGTATCGCTGCTGATCGCCATTTGTG 2100
Qy 2101 GGGGATTAACCGCGCAACAGCATCGCTGCGCGCTGCTGCGCGCGCTGCGCGCGCTGCGCG 2160
Db 2101 GGGGATTAACCGCGCAACAGCATCGCTGCGCGCTGCTGCGCGCGCTGCGCGCGCTGCGCG 2160
Qy 2161 ATTTCTGCTGATCAGCGCGCAGCTTACAGCAGCGCAGCTGCTTATCACTCATCGCGCGGT 2220
Db 2161 ATTTCTGCTGATCAGCGCGCAGCTTACAGCAGCGCAGCTGCTTATCACTCATCGCGCGGT 2220
Qy 2221 TAAACAGCGCGCTGGAAGCACTGGAATGCGGTACGCGCATGCTGCGCGCTGCGCGCTGCTG 2280
Db 2221 TAAACAGCGCGCTGGAAGCACTGGAATGCGGTACGCGCATGCTGCGCGCTGCGCGCTGCTG 2280
Qy 2281 TTGATCAGCGCGCGCTGCGCGCGCATTGAATGGCATGCTGCTGCGCGCGCTGCGCGCGCTG 2340
Db 2281 TTGATCAGCGCGCGCTGCGCGCGCATTGAATGGCATGCTGCTGCGCGCGCTGCGCGCGCTG 2340
Qy 2341 GCTTTAGCGGTTTTCATCAACTGGAGCAGCATCTGCAACAGCTGCTGACCGCATCGTT 2400
Db 2341 GCTTTAGCGGTTTTCATCAACTGGAGCAGCATCTGCAACAGCTGCTGACCGCATCGTT 2400
Qy 2401 ACGCGCTACCGATGCTAGCGGATTCAGCGCGCATGCTGACGCGCAGCGGCTGCGCGCGGTG 2460
Db 2401 ACGCGCTACCGATGCTAGCGGATTCAGCGCGCATGCTGACGCGCAGCGGCTGCGCGCGGTG 2460

Qy	2461	CGCCGACATCGTCAGCAGCGCGCTGTGCCAGCAGCAAGTCGTGCTGGCGGAGGCGA	2520
Db	2461	CGCCGACATCGTCAGCAGCGCGCTGTGCCAGCAGCAAGTCGTGCTGGCGGAGGCGA	2520
Qy	2521	GATGCGCAGCAATACGATGTGATTTTGGTGGTCTGCACTGGCGAATGCTTATTCG	2580
Db	2521	GATGCGCAGCNAACGATGTGATTTTGGTGGTCTGCACTGGCGAATGCTTATTCG	2580
Qy	2581	GCTGCGTCTGCGTCAATTTGCAGCCCAACTGAATGCTTGTGCTGGAGAGCGATGCGCA	2640
Db	2581	GCTGCGTCTGCGTCAATTTGCAGCCCAACTGAATGCTTGTGCTGGAGAGCGATGCGCA	2640
Qy	2641	TCCGCGAGCAATCATACTGCTGTTTCATCAGCGATCTCAGCGCGCAACACTTCG	2700
Db	2641	TCCGCGAGCAATCATACTGCTGTTTCATCAGCGATCTCAGCGCGCAACACTTCG	2700
Qy	2701	CTGGCTGCAACCGCTGATTTACCGTGGTGGTTCAGGTTATCAGGTCGCTTTTCCGCGCT	2760
Db	2701	CTGGCTGCAACCGCTGATTTACCGTGGTGGTTCAGGTTATCAGGTCGCTTTTCCGCGCT	2760
Qy	2761	CGCGCGCAATCTGGACGGGGATTTATTTCCATCGCATCAGCGGATTTTGGCCGCACTCT	2820
Db	2761	CGCGCGCAATCTGGACGGGGATTTATTTCCATCGCATCAGCGGATTTTGGCCGCACTCT	2820
Qy	2821	TTACGCGCGATGGGTGACGATCTGTGGAACAAACACAGCCGTACAAAGTAAACCCAC	2880
Db	2821	TTACGCGCGATGGGTGACGATCTGTGGAACAAACACAGCCGTACAAAGTAAACCCAC	2880
Qy	2881	GCAGGTGACGCTGGCGGATGCGCGTAACTTCTGCGCAAGTGATGATGCTGCGG	2940
Db	2881	GCAGGTGACGCTGGCGGATGCGCGTAACTTCTGCGCAAGTGATGATGCTGCGG	2940
Qy	2941	CCTGCGCGCAGCGCCACATCTGCAGCTGGGTATCAGGTGTTTCTTGACAAAGTGGCA	3000
Db	2941	CCTGCGCGCAGCGCCACATCTGCAGCTGGGTATCAGGTGTTTCTTGACAAAGTGGCA	3000
Qy	3001	GCTGCGCGCAGCGCCACGCGCTGACAGCCGATCTGATGATGCAACCGCTCGATCAGCA	3060
Db	3001	GCTGCGCGCAGCGCCACGCGCTGACAGCCGATCTGATGATGCAACCGCTCGATCAGCA	3060
Qy	3061	AGCGGTATCGTTTGTCTACAGCTGCGCTGCGCTCAGCGCCGATCGGCTATTTGATGAAGA	3120
Db	3061	AGCGGTATCGTTTGTCTACAGCTGCGCTCAGCGCCGATCGGCTATTTGATGAAGA	3120
Qy	3121	TACCCATTACGTTAAACAGCCCGCGCTGCGGAGAAACCCGCTCGTACGACATCGCGGA	3180
Db	3121	TACCCATTACGTTAAACAGCCCGCGCTGCGGAGAAACCCGCTCGTACGACATCGCGGA	3180
Qy	3181	CTATGCCAATCAGCAAGGCTGGACGCTGAGTACGCTGCTGCTGGAAGACGCGCATATT	3240
Db	3181	CTATGCCAATCAGCAAGGCTGGACGCTGAGTACGCTGCTGCTGGAAGACGCGCATATT	3240
Qy	3241	ACCGATTACCTGAGCGGCACATCGATCGATTTCTGGCAACAGCAGCGCGCCAGCGTG	3300
Db	3241	ACCGATTACCTGAGCGGCACATCGATCGATTTCTGGCAACAGCAGCGCGCCAGCGTG	3300
Qy	3301	CAGCGGCTGCGCGCGCGCTGTTTCTATGCCACACCGGTTACTCTTTCGCTCGCGCT	3360
Db	3301	CAGCGGCTGCGCGCGCGCTGTTTCTATGCCACACCGGTTACTCTTTCGCTCGCGCT	3360
Qy	3361	GGCGCTAGCGGATTTGGTGGAGCGCTGTTTCTGCAACACCGGTTACTCTTTCGCTCGCGCT	3420
Db	3361	GGCGCTAGCGGATTTGGTGGAGCGCTGTTTCTGCAACACCGGTTACTCTTTCGCTCGCGCT	3420
Qy	3421	TATCGAACGCTTTTCCGCTGACGAGTGGCGGCAACAGCGATTTTTCGCTGCTTAAACCG	3480
Db	3421	TATCGAACGCTTTTCCGCTGACGAGTGGCGGCAACAGCGATTTTTCGCTGCTTAAACCG	3480
Qy	3481	CATGCTGTTTTTGGCGGTAGCGCAGCGCTGCGCGCTGATGCAACGTTTTTACCG	3540
Db	3481	CATGCTGTTTTTGGCGGTAGCGCAGCGCTGCGCGCTGATGCAACGTTTTTACCG	3540
Qy	3541	GCTCGATGCGGGTAAATTTAGCCGCTTTTACGCGGGCAACTGCGCGCTGCGCGATAAACA	3600
Db	3541	GCTCGATGCGGGTAAATTTAGCCGCTTTTACGCGGGCAACTGCGCGCTGCGCGATAAACA	3600
Qy	3601	GCGGATTTCTGTCGCGCAAGCGCGTGCCTCATCGTGAAGCGCTGCGCGCTGTTGAA	3660
Db	3601	GCGGATTTCTGTCGCGCAAGCGCGTGCCTCATCGTGAAGCGCTGCGCGCTGTTGAA	3660
Qy	3661	TTCTGTGCAACACAGGGAAGAAAAATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGC	3720
Db	3661	TTCTGTGCAACACAGGGAAGAAAAATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGC	3720
Qy	3721	GGCTTGGCGTGGCGATTCGCTGCAAGCGCGGCGCATACCAACCACTTCTCAGCAG	3780
Db	3721	GGCTTGGCGTGGCGATTCGCTGCAAGCGCGGCGCATACCAACCACTTCTCAGCAG	3780
Qy	3781	CGGCACAAACCGCGCGGACGCGCTATGTGTTTTCAGGACAGTGGCTTTACCTCGATGCC	3840
Db	3781	CGGCACAAACCGCGCGGACGCGCTATGTGTTTTCAGGACAGTGGCTTTACCTCGATGCC	3840
Qy	3841	GGACCCACGCTGATCACCGATCCCGAGCGCATCGAAGAGTTGTTTCACTGCGCAGGAAAA	3900
Db	3841	GGACCCACGCTGATCACCGATCCCGAGCGCATCGAAGAGTTGTTTCACTGCGCAGGAAAA	3900
Qy	3901	TCGCTCAGCGATTCGCTGAGCTGATGCGCGTAAACCGCTTCTATCGCTGCTGCTGGGAA	3960
Db	3901	TCGCTCAGCGATTCGCTGAGCTGATGCGCGTAAACCGCTTCTATCGCTGCTGCTGGGAA	3960
Qy	3961	GATGCGCAACAGCTTGAATTCGCAATTAATCAGCGCTGCTGGAGCAGCATGCCACG	4020
Db	3961	GATGCGCAACAGCTTGAATTCGCAATTAATCAGCGCTGCTGGAGCAGCATGCCACG	4020
Qy	4021	TTCAATCCGCAAGATGTAGAAGGCTATCGTCAATTTCTTGCTTATTCACGTGAAGTATTT	4080
Db	4021	TTCAATCCGCAAGATGTAGAAGGCTATCGTCAATTTCTTGCTTATTCACGTGAAGTATTT	4080
Qy	4081	AGAGAGGTTATCTGAAACTCGGCACGCTGCGTTCCTTTCAGGTCGCTGACATGCTGCGC	4140
Db	4081	AGAGAGGTTATCTGAAACTCGGCACGCTGCGTTCCTTTCAGGTCGCTGACATGCTGCGC	4140
Qy	4141	GTGCGCGCGCATGTTGGACGCTCTGCAAGCATGGCGCAGCGCTACAGCATGGTGGCGAAA	4200
Db	4141	GTGCGCGCGCATGTTGGACGCTCTGCAAGCATGGCGCAGCGCTACAGCATGGTGGCGAAA	4200
Qy	4201	TTTATTCAGACAGCATCATCTGCGTCAGCGTTTTCTTCCACTCATTTGCTGGCGGT	4260
Db	4201	TTTATTCAGACAGCATCATCTGCGTCAGCGTTTTCTTCCACTCATTTGCTGGCGGT	4260
Qy	4261	AATCCTTTTGCACAGCTCATCTATACTTAATTCATGCGCTGGAGCGTGAATGGGCG	4320
Db	4261	AATCCTTTTGCACAGCTCATCTATACTTAATTCATGCGCTGGAGCGTGAATGGGCG	4320
Qy	4321	GTGTTGTTTCCGCGCGCGCACCGCGCTGGTGAGGCGATGGCGCGCTGTCGAG	4380
Db	4321	GTGTTGTTTCCGCGCGCGCACCGCGCTGGTGAGGCGATGGCGCGCTGTCGAG	4380
Qy	4381	GACTTGGCGCGAGCTGTTACTGAATGCGCAAGTGAAGCAGCTGGAAACAGCGGCAAT	4440
Db	4381	GACTTGGCGCGAGCTGTTACTGAATGCGCAAGTGAAGCAGCTGGAAACAGCGGCAAT	4440
Qy	4441	CGCATTTAGCGCGTTTCTAGTTAGAGGCGGACGAGCTTCGATGCGCGCTGTCGCTCC	4500
Db	4441	CGCATTTAGCGCGTTTCTAGTTAGAGGCGGACGAGCTTCGATGCGCGCTGTCGCTCC	4500
Qy	4501	AATGCCACAGTGGTGATACCTACGACAAACTGCTTCGCCACCATCGCTGGCAATGAAA	4560
Db	4501	AATGCCACAGTGGTGATACCTACGACAAACTGCTTCGCCACCATCGCTGGCAATGAAA	4560
Qy	4561	CGTGGCAGATCGCTGAAGCGTGAAGCGTAAAGCGTAAAGCGTAAAGCGTAAAGCGTAAAGCG	4620
Db	4561	CGTGGCAGATCGCTGAAGCGTGAAGCGTAAAGCGTAAAGCGTAAAGCGTAAAGCG	4620
Qy	4621	CTGAATCAGCGCGCATGAACAGCTCGCGCACCAACCGTCTGTTTGGCGCGCTTATCGT	4680
Db	4621	CTGAATCAGCGCGCATGAACAGCTCGCGCACCAACCGTCTGTTTGGCGCGCTTATCGT	4680

Db 4621 CTGAACTCAGCGCGATGAAAGCTCGCGCACACACCGTCTGTTTGGCCCGCGTTATCGT 4680
Qy 4681 GAGTTGATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCACTTTACCTG 4740
Db 4681 GAGTTGATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCACTTTACCTG 4740
Qy 4741 CACGCGCCCTGCAGCAGCGATCGTCTGGCAGCCCGCGCTGGCAGCTTTTATGTG 4800
Db 4741 CACGCGCCCTGCAGCAGCGATCGTCTGGCAGCCCGCGCTGGCAGCTTTTATGTG 4800
Qy 4801 TTAGCGCGGTGGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGACCGCGC 4860
Db 4801 TTAGCGCGGTGGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGACCGCGC 4860
Qy 4861 TTGGCGGATCGAAATTTTGTCTTATCTGGAGCAGCACTACATGCGCGGATTAACGTCAGCAA 4920
Db 4861 TTGGCGGATCGAAATTTTGTCTTATCTGGAGCAGCACTACATGCGCGGATTAACGTCAGCAA 4920
Qy 4921 TTAGTGACACAGAAATGTTTACCGCGTTTGAATTTTCGCGACACGCTGCATGCCCATCAC 4980
Db 4921 TTAGTGACACAGAAATGTTTACCGCGTTTGAATTTTCGCGACACGCTGCATGCCCATCAC 4980
Qy 4981 GGCTCGCGGTTTTCGCTGGAGCGGATTTTGAACGAAAGCGCTGGTTCCGCGCCGATAAC 5040
Db 4981 GGCTCGCGGTTTTCGCTGGAGCGGATTTTGAACGAAAGCGCTGGTTCCGCGCCGATAAC 5040
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Qy 5101 GTGCCCGGCTGATCGGTTTCGGCCAAAGCCACCGCCAGGCTGATGCTGGAGGATCGCGCC 5160
Db 5101 GTGCCCGGCTGATCGGTTTCGGCCAAAGCCACCGCCAGGCTGATGCTGGAGGATCGCGCC 5160
Qy 5161 GAATGAATTCGACAGCCTTTACTTCGAGCAAGTAAACGCAACCATGGCGTGGCTCGAAGA 5220
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Qy 5341 CGCAGCATGCCGTTCGAGACGCGCAGCAGCTATGACGATCTGCAAAATTCGAAACCGCGC 5400
Db 5341 CGCAGCATGCCGTTCGAGACGCGCAGCAGCTATGACGATCTGCAAAATTCGAAACCGCGC 5400
Qy 5401 CGCGCTACAGCGCGCGCACATGGAATGAACCGCGGTTTGGCGGTTTTCAGGAAGTGCGGA 5460
Db 5401 CGCGCTACAGCGCGCGCACATGGAATGAACCGCGGTTTGGCGGTTTTCAGGAAGTGCGGA 5460
Qy 5461 TCATTCACAGCTGCGCAACAACTGGCGTTTGAATCATCTGGAAGGCTTCGCTATGATG 5520
Db 5461 TCATTCACAGCTGCGCAACAACTGGCGTTTGAATCATCTGGAAGGCTTCGCTATGATG 5520
Qy 5521 CACGCAAGCAATTTACGCGAGCTTCGATGACAGCTGCTTACTGCTATCAGCTCGCGG 5580
Db 5521 CACGCAAGCAATTTACGCGAGCTTCGATGACAGCTGCTTACTGCTATCAGCTCGCGG 5580
Qy 5581 CGTGGTTCGTTTGAATGATGCGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5640
Db 5581 CGTGGTTCGTTTGAATGATGCGCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5640
Qy 5641 AGCGCTGCGATTTAGGACTGGGTTTCAGCTCACTAAATTTGCGCGGACATTTGAGAG 5700
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Qy 5701 ATGCCGAAATTTGCTGCTATCTGCGCAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5760
Db 5701 ATGCCGAAATTTGCTGCTATCTGCGCAATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 5760

Qy 5761 CCGATACGCTGACTGCACCGCAACATCTGTCAGCGCTCGCTCCTCCTCCTGCGAGCGGTTTAC 5820
Db 5761 CCGATACGCTGACTGCACCGCAACATCTGTCAGCGCTCGCTCCTCCTCCTGCGAGCGGTTTAC 5820
Qy 5821 TGGCGAGGCGGAACCTTATTAATCACTCGCGCGCATCCGCTTTACCGGGTTTACCGCTGC 5880
Db 5821 TGGCGAGGCGGAACCTTATTAATCACTCGCGCGCATCCGCTTTACCGGGTTTACCGCTGC 5880
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Db 5881 GCTCGCGCTGGGCCATCGCTTACCGCTCGCGGCTTTATCGCGAAATTTGGCGTCAAAAGTTC 5940
Qy 5941 AGCACCGCGTGTGACGCTGGGATTCAGCGCAGCGCACCACTAAGGTGAAAACTGG 6000
Db 5941 AGCACCGCGTGTGACGCTGGGATTCAGCGCAGCGCACCACTAAGGTGAAAACTGG 6000
Qy 6001 CGCTGCTGGTGAAGGGGAGGTTTGGCGATCACTTCGCGTGTGTCTCGCTCTGAAACCGC 6060
Db 6001 CGCTGCTGGTGAAGGGGAGGTTTGGCGATCACTTCGCGTGTGTCTCGCTCTGAAACCGC 6060
Qy 6061 GTCCGCTGCTGTGTGCGCAGCTCTCGTTGATTTTACGCTCGTGCAGCTGGCGCAGCGT 6120
Db 6061 GTCCGCTGCTGTGTGCGCAGCTCTCGTTGATTTTACGCTCGTGCAGCTGGCGCAGCGT 6120
Qy 6121 GGCTTGACGCTTATTCAGCGGTGGCGGTAGAGAAACCAACGACACGACGAGCTTCAACG 6180
Db 6121 GGCTTGACGCTTATTCAGCGGTGGCGGTAGAGAAACCAACGACACGACGAGCTTCAACG 6180
Qy 6181 CCCGCGCACCGCATGATGATGCGGTGCGCATGTATTAAGCGCTTAAGATAGCTTTTGGC 6240
Db 6181 CCCGCGCACCGCATGATGATGCGGTGCGCATGTATTAAGCGCTTAAGATAGCTTTTGGC 6240
Qy 6241 CGGGATATAGCGAAACGCGCAGCTTGTATGCAACAGGCCATCTGTCACCATGAAGTAGAG 6300
Db 6241 CGGGATATAGCGAAACGCGCAGCTTGTATGCAACAGGCCATCTGTCACCATGAAGTAGAG 6300
Qy 6301 CGCGCGTACGTCGTCTCATTTCCGGCACCAATCTCCTGAGCGGCACATGCTTGCACACC 6360
Db 6301 CGCGCGTACGTCGTCTCATTTCCGGCACCAATCTCCTGAGCGGCACATGCTTGCACACC 6360
Qy 6361 GACATAATCAGCACCAATCGCCAGTACCGCAACACACCGCATAAAGATCGTTAGCTC 6420
Db 6361 GACATAATCAGCACCAATCGCCAGTACCGCAACACACCGCATAAAGATCGTTAGCTC 6420
Qy 6421 AAACTTACCCTGTGCGGTTTATGTCGACAGATGCGAGCCCATCCCAACCGTGCAT 6480
Db 6421 AAACTTACCCTGTGCGGTTTATGTCGACAGATGCGAGCCCATCCCAACCGTGCAT 6480
Qy 6481 GATGTTATTTATGCGACAGCGCGTACGATTTCCATCACCACCGGTTGCCACCAAGAT 6540
Db 6481 GATGTTATTTATGCGACAGCGCGTACGATTTCCATCACCACCGGTTGCCACCAAGAT 6540
Qy 6541 AAGCACGCTTCCATAACAGAGCATTTGTTCTCAATTTGTGAAAGGAAAGTACTAAAGG 6600
Db 6541 AAGCACGCTTCCATAACAGAGCATTTGTTCTCAATTTGTGAAAGGAAAGTACTAAAGG 6600
Qy 6601 TGGACGCGGATGATGATGCGCAAGGTTTACCATGTTTGAATAATTTTAAAGTCCATAA 6660
Db 6601 TGGACGCGGATGATGATGCGCAAGGTTTACCATGTTTGAATAATTTTAAAGTCCATAA 6660
Qy 6661 CACGTTATGAACGCTGCAATTTGCAGAAAGCGCAGATTTTTCACATCTCACCACACTTATC 6720
Db 6661 CACGTTATGAACGCTGCAATTTGCAGAAAGCGCAGATTTTTCACATCTCACCACACTTATC 6720
Qy 6721 AATACAGTGTAACTACATGGGGATTTTATGCTTCTACAGCGGTAAAGCAAAAAA 6780
Db 6721 AATACAGTGTAACTACATGGGGATTTTATGCTTCTACAGCGGTAAAGCAAAAAA 6780
Qy 6781 CTGTCACTGTGACACTTTGAACT 6840
Db 6781 CTGTCACTGTGACACTTTGAACT 6840

Qy 6841 TATCCGCCATCTTATCAAAAGCTTTGCAACATGAAATTCGACGACTCGACAGCAAGAT 6900
Db TATCGGCCATCTTATCAAAAGCTTTGCAACATGAAATTCGACGACTCGACAGCAAGAT 6900
Qy 6901 GGAAGCGTGAACAGTGAAGCTTTGCAAGGAACCTCAATCGCATTAACCGAAGACGCGTT 6960
Db GGAAGCGTGAACAGTGAAGCTTTGCAAGGAACCTCAATCGCATTAACCGAAGACGCGTT 6960
Qy 6961 TATTGTCCGATGAATACAGGACGTTTATAGACATGCAATA 6999
Db TATTGTCCGATGAATACAGGACGTTTATAGACATGCAATA 6999

RESULT 2
US-10-804-677-18
; Sequence 18, Application US/10804677
; Publication No. US20040224383A1
; GENERAL INFORMATION:
; APPLICANT: E.I. duPont de Nemours and Company, Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: Cl2346 US NA
; CURRENT APPLICATION NUMBER: US/10/804,677
; CURRENT FILING DATE: 2004-03-19
; PRIOR APPLICATION NUMBER: US 60/468,596
; PRIOR FILING DATE: 2003-05-07
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 8675
; TYPE: DNA
; ORGANISM: Pectobacterium cyripedii DC416
US-10-804-677-18

Query Match 61.8%; Score 4326.2; DB 8; Length 8675;
Best Local Similarity 80.1%; Pred. No. 0;
Matches 5122; Conservative 0; Mismatches 1268; Indels 5; Gaps 3;

Qy 236 AAAGTCAAGTCCCTCGCTGGCGAACTCACCTTACGCACTGCTACGCTTAAATC-AAAAAAGCA 294
Db 1119 AAAGTCCGCTCGCTGGCGCACTCCCTTACCGGCTCTACGCTTAAATGAAAGCA 1178
Qy 295 TAAAAATTTACCAACCATGATGAGCAATATGACACCCCATGTCGACACACAGACAT 354
Db 1179 CAAGATTTTAACTAACCATGGAAGCCGCTATGACCCGCCATGTGCGATACCACAGCAAGC 1238
Qy 355 CAGACAAGCAACTCCTTCAGCTGCAGCAAAATTTTACAGGCGCATCTTGAACATTTACTG 414
Db 1239 CAGGAAAGCGATCTCCTTCAGTTGATCAGCGATTCGAGGCCCATCTTGAACATTTATG 1298
Qy 415 CCTGCCGAGCAGCAAGCGATCGGCTGTCGCCGCGATGCGTGGGAAACGCTGGCGCAG 474
Db 1299 CCTGCCGAGCAGCGCGATCGGCTGCGGCCGCCATGCGTGGCGCACGCTGGCACCG 1358
Qy 475 GCGAAACGATTCGCTCTTTATTAATGCTGTCGAGCGCGCGATATGGGTTCGAGCTG 534
Db 1359 GCGAAACGATTCGCTCGGCTCTTGTGCTGTCGTCGAGCAGCAGCATATGGGCTGTGAGCTG 1418
Qy 535 ACGCAAAATGCGCTTCGATCTCGCTGTCAGTGGAAATGTCGACGCGGCATCGCTG 594
Db 1419 GCGCAGCAGGCGATCTCTTGATCTTGCTGTCGCGTGGAAATGTCGACGCTGCTCACTG 1478
Qy 595 ATTCGATGACATTCCTCGATGGATAACCGCGCAGATGCGTGTGTCGCTTACCGCTG 654
Db 1479 ATCTCGACGACATTCATCAATGATGAACCGCCCGATGCGCTGGCGGCCCGGCAATC 1538
Qy 655 CATCGCAATTTGTTGAAACGTTGGCGATTTCTCGCCGCGCATTCGCGCTGTAGCCGCGCA 714
Db 1539 CACTGTGAATATGGGGAACGTTGGCGATCTCTGCGAGCGGTGCGGCTACTCAGCCGCGCC 1598

Qy 715 TTTCAAGTGTATTGCACTTGCAACCGGTTTGCCTGCATACATAAATCTGAAGCGATTGCT 774
Db TTTGAGGTGATTGCTTCCCTCGCGCCGGTCTGCAGCAACGCAAAAGCCGAGGCCATTGCC 1658
Qy 775 GAACTCTCCGCTGCGCTGCGCTTCAGAGGCTTACTGCAAGGGCAATTCACAGATCTGCAC 834
Db GAGCTCTCTCTGCGCGTGGGCTTCAGGGACTGGTTTCAAGGTCTAGTTCCAGGATCTGCAT 1718
Qy 835 GACGGCAGCAGAGCGCAGCGCCGGAAGCGATCGCCATGACCAACGAGCTGAACACCCAGC 894
Db GACGGCAGCAGCAGCGCGAGTCCGGAAGCCATCACTTGAACCAATGAATCACTGAACACCCAGC 1778
Qy 895 GTGCTGTTTTCGCGCACGCTGCAAAATGGCGCGGATTCGCGTGCAGCTTTCACCCGAGGTG 954
Db GTCTCTGTTTTCGCGCACGCTGCAGATGGCGCGGATTCGCGCGGATTCGCTCAGTCAGGTA 1838
Qy 955 CGGCAAAAGACTTACTTCTTCGCCACGAGATTTGGGCCAGGCGTTTCAACTCTCTGCACGAC 1014
Db CGTCAGCGTTTAAAGCTATTTTTCGCGAGATTTAGGTCAAGGCTTTTCCAGTTACTGGACGAC 1898
Qy 1015 CTCGCCAGCGGTTGCAAAACACACACCGGTAAAGATGTGCACAGGATCAGGGCAAAATCCAGC 1074
Db CTCGCCAGCGGCTCTAAAGCACACCGGCAAGGACTGTCTATCAGGATCAGGGCAAAATCCAGC 1958
Qy 1075 CTGGTACAGATGCTTCGGTGTCTGACGCGCGGAACGTCGCCCTGCGCGATCACCTGCGCAGC 1134
Db CTGGTACAGATGCTGCGGCCGGAAGGCTGAGGCTGTCTGCGCGGACCATCTAAGCAGC 2018
Qy 1135 GCAGATGCACACTTGTGCTGCGCTGCCATTCGCGGCAATGCGCAATGCAATATATGAC 1194
Db GCCGATGCACACTTGTGCTGCGCTGCCATTCGCGGCTGCGCACCCCGTCAATATATGAC 2078
Qy 1195 GCGCTGTTTAACTCAAGAGCTAGCGATTTCAACTGAGGCGGCTCAGCGGTTGGGCCACT 1254
Db GCGCTGTTTAACTCAAGAGCTGGCGATGTTCAACTGAAAGCGGTCATACCTATAGGGGCAAT 2138
Qy 1255 TTGCGGTGATCGCGCCCGCTCTACAGCCACTTTTACGCGCTTCGAGCGGTTAGCACAAA 1314
Db TTGCGGTATTTGCGCCACCGCTCTACAGCCACTTTTACGCGCTTCGAGCGGCTGCGGCAAA 2198
Qy 1315 CGCTGCTGGCGCGCGCATCGCATCACCTTTATCCAGCAAGTGTGACGCGACTTTCG 1374
Db CGCTGCTGGCGCGCGCATCGCATCACCTTTATCCAGCAAGTGTGACGCGACTTTCG 2258
Qy 1375 TTAGCGAGCAAGCGATCGATTTGTTGCGCTGCGCCAAACAGACGATCTCTGCGGTTGCG 1434
Db TGAGCGAGCAAGCGATTTGCTTTGTCGCGCTGCGCGGCGCATCTCTGCGGATTCG 2318
Qy 1435 TGGCGCCGTTGTCATCGCTGCGCTGCGCGCGGCTGCTGCTGTTTTCGCGTGTATCG 1494
Db TCTCCAGCGAATCTCAGCGGCTGCGCGCATCGCGCGGCTGCTGCTGTTTTCGCGTGTATC 2378
Qy 1495 ACGATCTCGGTCCTGCAACCGATATGCTGTCGCCGAACTTCCTTCGCGTACTGAAAGCAT 1554
Db ACGATCTGCGCCAGCACCGATATGCTATGCGCGCAACTTCGCCGCGGCTGCTGCAACGCG 2438
Qy 1555 TGAACATCGATGCGCTGATCGCGACGAAATGGAAGCGCGCGGCGGATTTGTCGCTGAG 1614
Db TGCAGTTCGATGCGCGTGTATTCGCCGATCAAAATGGAAGCGCGGCTGCTGCTGCGCAGG 2498
Qy 1615 CGCTGCAATCTGCGCTTTGTTTTCGGTGGCTTGGCGCTTTCGCGTCAATTCGTAAGCCGGA 1674
Db CGTTACAGCTGCGCTGCTGCTGCGTGGCTTTCGCGGCTGCGCGCTCAATTCGGAAGCGGCA 2558
Qy 1675 TTCGCTTTCGCGTATGCCCTTCGTTTTCACAGGATGACAAAGCGCTGAAACGCTTTTC 1734
Db TTCGCTTTCGCGTATGCCCTTCGTTTTCACAGGATGAGAAAGCGCTGCGCGCTATC 2618
Qy 1735 AGGCGACGAGGATATCTATGATCGCATCATGCGTCTGTCAGCGGCGATGATCTCTCAAC 1794
Db AGGCGACGAGGATATCTATGATCGCATCATGCGTCTGTCATGCGGCTGTCATCTGCTGTC 2678

Qy	1795	ACGCGGGGGTTTAAATTGAAGAGCGCGCGGATTACATCAGTGCCTGTGCGCGCTGG	1854
Db	2679	ATGCGCGCGCTTTCGGCTGCCCAAAGCAATGACCTTATCAGTGTCTGTGCGCGCTGG	2738
Qy	1855	CACAAATCAGCAGATGGTGGCGGCTTTGATTTTCCAGTCAGCAACTGCGCGCTGCT	1914
Db	2739	CGAAATCAGTCAGCTGGTGGCGGCTTTGATTTTCCAGCCAGCAACTGCGAGCTGCT	2798
Qy	1915	ATCAGCGGTGGGGCACTCCGCGCGCCGGTTTCTCTGCGCGCTCCATGCGCCCTGGC	1974
Db	2799	ATCAGAGGTGGGTCCGTGCGGACTCCAGTTGCTAGCGGGCGGCTCGCGCACTTGGC	2858
Qy	1975	CAGCGTGTGCGTAGCGCGGTGTTTATGCTTCGCTGGGTACGCTGCAAGGCATTCGCTTC	2034
Db	2859	CAGCGTGGCCAGCGCGGTGTATGCTTCGCTGGGCACGCTACAGGGGCAATCGCTTTC	2918
Qy	2035	GGCTGTTTCTGCATCTGGGCGCAGCGGTGCGCGCAGCTGCGGCTATCGCTGGTATCGCC	2094
Db	2919	GCCTGTTTCTGCATCTGGGCTCAGGCGCTGCGGCAATCAGCAGCTGTGCTGGTGGTGGCAC	2978
Qy	2095	ATTGTGGGGATTAAAGCCCGAAACAGACGATCAGCTTGGAGCTGCGTGGCGCGCGCTGGG	2154
Db	2979	ACTGTGGCGGTTGAACGCGCAGCAGGCACATCAGCTCAGACTGGCGGCTGTGCGTGGG	3038
Qy	2155	TGACGGATTCGTGATAGCGCGCACGCCCTACAGCACGCGCAGCTGTTTATCACTCATG	2214
Db	3039	TGACCGATTTGTGGATCAGCGGCGCGCTGCAGCATGCGCAACTGTTTATCACTCACG	3098
Qy	2215	CGGGTTAAACAGCGGCTGGAAGCACTGGAATGCGGTACGCCGATGCTGGCGCTGCCGA	2274
Db	3099	CGGCTCGAAACAGTGCGCTGGAAGCATGAGATGTGGCACGCCGATGCTGGCGCTGCCGA	3158
Qy	2275	TTGCTTTTGATAGCGCGGCTGGCGCGCATTTGATGCGCATGAGTTGGTGGTCGCGCGG	2334
Db	3159	TCGCTTCGATAGCGCGGCTGGCGCACGTATTTAGTGGCACGGGCTCGCGCGCGCGG	3218
Qy	2335	CATCACGCTTTAGCGGTGTTTCATCAACTGGAGCAGCATCTGCACAGCTGCTGACCGAGC	2394
Db	3219	CCTCAGCTTTCAGCGGGTCCGCGAGCTGGAGCACCACTGCAACAGTTGCTCAGTGAAGC	3278
Qy	2395	ATCGTTACGGGCTACGGATGTACGATTTAGGGGCGAGCTGCAGCGCGCAGGCGGTGCC	2454
Db	3279	ATCGTATCTGTGCGATGTGACGCCATTCAGCGCGAGCTGCACGCGGCGGCTGGCTGA	3338
Qy	2455	AGGTGCGCGGCACATCGTCAGCAGCGCTGTGCCAGCAGCAAGTCGTCGCGCGAGG	2514
Db	3339	CGCGCGGCTGATATTGTTCAGCAGCGGCTGTGTAGCAGCAAAATCGTCTGCGCGGAGG	3398
Qy	2515	CGACCTGATCGCACGCAATACAGATGTGATTTTGGTCTGCTGGACTGCGCAATGGCTT	2574
Db	3399	CCACCTGATGCGGCACCTTATGATGTCAATCTGGTCCGTGCGGCGCTGCTAACCGGCT	3458
Qy	2575	GATTCGCTTGGTCTGGTCAATTTGCAGCCACAACATGAAATGCTGTGCTGGAGAGCGA	2634
Db	3459	GATTCGCTTGGTTTACGCCAGCTGACGCCGCACTTAAAGGTTTGTCTACTGGAGAGTCA	3518
Qy	2635	TGCGCATCCGCGAGGCAATCATACCTGTCGTTTTCATCAGAGCATCTCAGCGCGCAACA	2694
Db	3519	GGCGCAGCGGCGCGGCAATCATACCTGTCGTTCCATCGCGAGAGCTCAGCGAGCGCA	3578
Qy	2695	ACTTCGCTGGCTGCAACCGCTGATTACCGTGGTGTGTCAGGTTTATCAGGTGGCTTTCC	2754
Db	3579	GTTTCGCTGGCTCGAGCGCTGCTTTTCGGCGGCTGCGCCGGTTTATCAGGTACGCTTCCC	3638
Qy	2755	TGCGCTGCGCGCAATCTGACGCGGGAATTATTTGTTCCATTCGCATCAGCGGATTTTGC	2814
Db	3639	CACCTTCGCTCGCCAGCTGGAATGTGTGAATATTGCTCGATTTGCCCTCGGAGGATTTTGC	3698
Qy	2815	CCATCTTTTACGCGGATGGGTGACGATCTGTGGACAAACACAGCCGTCACACAGGTAAA	2874
Db	3699	GCACTTACAGAGGTGCTCGGTGCGCGCTACGCACCGCAGCGCGGCTCAGCGAGGTCTC	3758
Qy	2875	ACCCACGAGGTGACGCTGGCGGATGGCGGTGAACCTTGTCTGCGCAAGTGGTGAATGATGG	2934

[illegible]

Db 4839 TGCTGGGAAGACGGCAGGACGCTGGACTACGACAACTACGGCGCAGCTGGAGCAGCAG 4898
Qy 4012 ATGCCCAAGTCAATCCGCAAGATGTAGAAAGCTATCGTCAATTTCTTGCCCTATTTCACGT 4071
Db 4899 ATTGCCACTTTTAATCCCGAGATGTCCCGGTTACCGCAGTTTCTGGCCCTATTTCACAG 4958
Qy 4072 GAAGTATTTAGAGAGGTTATCTGAACTCCGGCACGGTCCGTTTCTGACAGGTGGTGAC 4131
Db 4959 GATGTGTTCTGAGGGCTATCTGAAACTGGGACACCGTACCTTTTCTGCAATTTCCGGAC 5018
Qy 4132 ATGCTGGCGCTCGCGCGCAGTGGGAGCTGTGCAAGCATCGCCAGCGCTACAGCATG 4191
Db 5019 ATGCTGGCGCGCCACAGCTGGGTCCGCTGACAGGCTTGGCAGGTGTCTACAGCATG 5078
Qy 4192 GTGGCGAAATTTATTTACAGCAGATCATCTGGGTTCAGGCGTTTCTTCCATCTCATTTGCTG 4251
Db 5079 GTGGCGAAATTTATTTATGACGATCATCTGCCCGAGGCTTTTCTTCACTCGTTGCTG 5138
Qy 4252 GTGGCGGTATCTTTTGGAAAGTCTCATCTGATCTATACCTTAATTTATGCGCTGGAGCGT 4311
Db 5139 GTCCGCGGTATCTCTTTTGGAAAGTCTTTCGATCTATACCTTTAAATTCAGCCTGGAGCGC 5198
Qy 4312 GAATGGGCGGTGCTGTTTCCGCGGCGGACCGCGCGCTGTGACGGGATCGCGCA 4371
Db 5199 GAATGGGCGGTGCTGTTTCCGCGGCGGCTTACCGGTGGCTGTTGATGGCATGGCGCG 5258
Qy 4372 CTGTTTCAGAGACTTTGGGCGGCGAGCTGTTACTGAATGCCGAAGTGAGCCAGCTCGAAAC 4431
Db 5259 CTGTTTCGCGATTTGGGCGGTGAATGCTGCTCAACGCCGAAGTACGCCAGCTGGAGACC 5318
Qy 4432 AGCGGCAATTCGATTTAGCGGCGTTCAGTTAGAGGGCGGACGACGCTTCGATGCGCGCGCT 4491
Db 5319 GAGGCTAAACCGCATCAGCGGTGTCAGCTGAAGATGGCGCGCTTTGTCGCGCGCGCGC 5378
Qy 4492 GTGGCTCCATTCGCGAGTGGTGATACCTACGACAACTGCTTGGCCACCATCCGCTG 4551
Db 5379 GTTCGCTCAATGTGACGTGGTGATACCTACGATCGCCTGTTAAAGCCAGCATCTCGG 5438
Qy 4552 GCAATGAACGTGCGACATCGCTGAAGCGTAAGCGCATGAGCAACTCGCTGTTGTATCTC 4611
Db 5439 GCGCGTAAACGCGCGGCAACGCTGAAAGCGCAAGCGGATGAGCAACTCGCTGTTGTATCTC 5498
Qy 4612 TATTTTGGCTGAATCAGCGCATGAAACAGCTTCGCGCACCAACCGCTGTTTGGCCCG 4671
Db 5499 TATTTTGGCTTAAATCATGCCCCACCGCAGCTGGCGCACCAACAGCTGTTGTTGGTCCG 5558
Qy 4672 CGTTATCGTAGTTGATCGATGAGATTTTCAACAGCAGCCAGCTGCGCAGACGATTTTCA 4731
Db 5559 CGCTATCGTGAATTTGATCGATGAGATCTTCAATAGCAGCCAGCTGGCGGGAAGATTTCTCG 5618
Qy 4732 CTTTACCTGACGCGCCCTGCGAGCAGCATCCGCTCGCTGGCACCGCGCGCTGGCGGACG 4791
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Qy 4792 TTTTATGTGTTAGCGCGGTGCCGATCTCGGCACCGCTGACATCGACTGGCAACAGGAA 4851
Db 5679 TTTTACGTGCTGGCGCGGTGCCGATCTCGGTACCGCGCAATTTGACTGGCAACAGGAA 5738
Qy 4852 GGACCGCGCTGCGCGATCGAATTTTTCGCTTATCTGAGCAGCAGCTACATGCGCGGATTA 4911
Db 5739 GGGCGCGCTGCGCGATTCGCAATTTTTCGCTTATCTGAGGAGCAGCTATATGCGGGCTG 5798
Qy 4912 CGTCAGCAATTTAGTGACACAGAAATGTTTACGCGGTTTGAATTTTCGCGACACGCTGCAT 4971
Db 5799 CGACAGCATTTAGTGACACACCGATGTTTACGCGGTTTGAATTTTCGCGACACGCTGCAC 5858
Qy 4972 GCCCATACGCTCGCGGTTTTCGCTGGAGCCGATTTTTCGCGCAAGCGCTGTTCCGC 5031
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Qy 5032 CCGCATAACCGCATGCGGATACAGCAATCTTATCTGTTGGGTGGCGGTACGCATCCA 5091
Db 5919 CCGCATAACCGCATGCGGATTAATTAACCTTTTATCTGTTGGGGGCTGGCAGCATCCC 5978

Qy 5092 GGCAGCGCGCTGCGCGCTGATCGGTTTCGCGCAAGCCACCGCAGGCTGATGCTGGAG 5151
Db 5979 GGTGCGGCTGTCAGCGGCTGATCGGCTCCGGAAGCGACCGCCAGCTGATGGTGAG 6038
Qy 5152 GATCGCGCGCAATGAATTCGACAGCCTTTTATCTTGAGCAAGTAACGCAAAACCATTGGCGGTG 5211
Db 6039 GATCTGACCGGATGAACCAACCGCGCTGATTGAGCAGGTCAACCAACCATTGGCGCAG 6098
Qy 5212 GCTCGAAGAGTTTCGCGCACCGCGCAAGCTGTTTGTATGACCGCGCGCGCAGCAGCAGC 5271
Db 6099 GCTCCAAAGTTTTCGCGAGCGCTACCGCGCTATTGATCTTCAACCGCGCGCGAGTACGC 6158
Qy 5272 TGATGCTGTTATGCGTGGTGTGCTCACTGCGATGATGTGATTTGATGGGCAACCGCTGGCGC 5331
Db 6159 TGATGCTGATCGCTGCTGCTCACTGTGACGATGTGATAGATGGTCAAGCGCTGGCGC 6218
Qy 5332 AAGCGCGACGCGAGCATGCGTTCGAAAGCGCGCAGCGATGATGAGCATCTGCAAAATG 5391
Db 6219 AAGCGCGACGCGAGCAGCGGTGGCGATGACAGCGCGCGATGCGCCACCTGCAAAATG 6278
Qy 5392 AAACCCCGCGCGCTACAGCGCGCGCACATGATGAACCGCGCTTTAGGCGCTTTCAGG 5451
Db 6279 AAACCCCGCGCGCTACAGCGGTGCCACATGGATGAACCGCGCTTTCGTCCTTTCAGG 6338
Qy 5452 AAGTGGCGATCATTTACACAGCTGCGCAACAACTGGCGCTTTGATCATCTTGAAGCGCTTCG 5511
Db 6339 AAGTGGCGCTGACGCGATCAGCTTCCCGCAGCGCTGGCTTTTGTATCATCTGGAAGGTTG 6398
Qy 5512 CTATGATGACGCGCAACAACTAACGCGAGCTTCGATGACACGCTGCGTTTACTGCTATC 5571
Db 6399 CGATGATGCGCGTGAAGAAACGTTATGCTGTTTCGCGGACACGCTGCTGCTATC 6458
Qy 5572 ACCTGCGCGCGCTGCTGCTTTCGATGATGCGCGCGTAATGGGCGTTCGCGACCAACGCG 5631
Db 6459 ACCTGCGCGCGCTGCTGCTTTCGATGATGCGCGCGTAAATGGCGCGTACGATGAGCGCG 6518
Qy 5632 TGCTCGATCAGCTGCGGATTTAGGACTGCGCTTCAGCTCACATAATTCGCGCGCAGCA 5691
Db 6519 TACTCGATCAGCTGCTGATTTGGTCTGGCGTTTACGTTTACCAATATCGCAGGATA 6578
Qy 5692 TTGTAGAGATGCGCAAAATGGTGGCTGCTGCTATCTGCGCGCAATCTGCGCTCGATCAGCGG 5751
Db 6579 TCGTTGAGGACGCGGAGATGGCGTTGCTATCTGCCAACAAAGCTGGCTGGATGAGCGCG 6638
Qy 5752 GATTACGCGCGGATACGCTGACTGACCGCAACATCTGCGAGCGCTCGCTCAGCTGCGCAG 5811
Db 6639 GACTGAGCGCGCGGCTGCTGCGGATCCGCAACATCGCGCAGCGCTGGCGCGCTGGCAG 6698
Qy 5812 CGCGTTTTCGCGCGGCGGCAACCTTATTCATCTCGCGCGGATCGCGTTTACCGGCTT 5871
Db 6699 CGCGTCTGCTGCGGAGCGCGGCTGCTATCATCTGAGCGCGCGCGCTGCGAGGAT 6758
Qy 5872 TACCGCTGCGCTGCGCTGGGCGCATCGCTACGCTGCGCGGTTTATCGGCAAAATGCGG 5931
Db 6759 TCGCGCTCGCTGCGCGCGGATCGCCACCGCGCGCGCTTTTACCGGCAAAATGCGG 6818
Qy 5932 TCAGAGTTTCAGACGCGCGGTGTCACGCTGGGATTCACGCGCAGCGCACCAATTAAGGTG 5991
Db 6819 TAAAGTTCAGCATGCGCGGTGCCCGGATGCGGATACGCGCCAGCGCACCAATTAAGGCG 6878
Qy 5992 AAAAACTGGCGCTGCTGCTGAAAGGGGAGGTTTGGCGGATCACCTTCGCGTGTGTCTGCTC 6051
Db 6879 AAAAGCTGGCGCTGCTGCTGAAAGGTCGCGCGCTGCGGCTTACTTTCGCGGCTTCTCATC 6938
Qy 6052 CTGAACCGCTCGCGCTGCTGTCGAGCGCTCTCTGTTGATTTTACGTCGTCGTCGACGCTG 6111
Db 6939 CCGAGGCGCTCTGCGCGCTCTGTCGAGCGCTCGCGCTTTCGACGACGCGCCCATGGCGCTG 6998
Qy 6112 GCGCAGCGCTGCTGAGCTTATTTACGCGGTGGCGGTAGAGGAAACCAACGACGACGCA 6171
Db 6999 GCGCAGCGCTCGCTGCGAGCTTGTGCAACGCGTGGGCGGTAAAGAAAGCCAAAGGAAACGCA 7058

QY 1630 TTGTTTCGGTGGCTCGCTTGGCGGTCAATCGTGAAGCCGGGATTCGGTTGGCGTGA 1689
Db 2882 TTGTTTCGGTGGCTCGCGCTCGCGCTCAACCGGAAACCGGGTTGCTCTGGCGGTGA 2941
QY 1690 TGCCCTTCGGTTTTCACAGGATGACAAAGCGCTGAAGCGTTTTCAGGCCAGCAGGATA 1749
Db 2942 TGCCCTTCAGTACCGCACAGCGATGCGGCTCGGGAACGCTATACACACGAGAAATA 3001
QY 1750 TCTATGATCGCATATCGTCTCACGGCGAGCTGATCTCAAAACACGCGCGGGGTTTA 1809
Db 3002 TTTATGACTGGCTGATCGACGCTACGATCGTGTGATCGCGCATCATGATCGCAATGG 3061
QY 1810 ATTTGACGAGCGCGCGGATTAATCATCATGCTGCTCGCGCTGCGGACAAATACGCCAGA 1869
Db 3062 GTTTAGCCCGCGTGAATACTGCATCATTTGTTTCTCACTGGCACAAATACGCCAGT 3121
QY 1870 TGGTCCGCGCTTTGATTTTCCACGTCAGCAACTGCCCGCTGCTATCACGCGTGGGGC 1929
Db 3122 TGATCCCGAACTGGATTTTCCCGCAAGCGCTGCCAGACTGCTTTATGCGGTTGGAC 3181
QY 1930 CACTCCGGG---CCCGGTTTCTCCTGGCGCGCTCCATGCGCGCTGGCGAGCGCTGCGTC 1986
Db 3182 CGTTAGCGCAACCCACGGGAGCCGGGTCACTCACTTCTTAATTTTCGTTCCCGGACA 3241
QY 1987 AGCCGGTGGTTATGCCCTCGTGGTACGCTGCAAGGCAATCGCTTCCGGCTGTTTCTGC 2046
Db 3242 AACCCTGATTTTTCCTCGCTGGGACCTTCAGAGGACATCGTTATGCGCTGTTTCAGGA 3301
QY 2047 ATCTGGCGAGCGTGGCGGAGCTGCGGCTATCGCTGGTGTATCGCCCATTTGTGGGGAT 2106
Db 3302 CCATCGCCAAAGCTTGGAAAGGTGGATGCGCAGTTACTGTTGGCACACTGTGGCGGCC 3361
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Db 3362 TCTCAGCCACGACGAGCTGNACTGGCCCGGGCGGGACATTCAGGTGTGGATTTTG 3421
QY 2167 TCGATCAGCGCGAGCCCTACAGCACGCGAGCTGTTTATCATCTCATGCCGGGTTAAACA 2226
Db 3422 CCGATCAATCCGACGACTTTTCACAGGCACAGTTGACAATCACACATGCTGGGATGAATA 3481
QY 2227 GCGCGCTGGAGACTGGAATGCGGTACGCCGATGCTGGCGTGGCGATTTGTTGATC 2286
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QY 2287 AGCCCGGTGGCGCGCGCAATTGATGGCATGAGTTGGTGGCGCGCATCACGCTTTA 2346
Db 3542 AACCTGGGTGGCATCAAGATTTTATCATGGCATCGGACAGCGTGGCTCGGTTTA 3601
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Db 3602 CTACCAGCCATGCGCTGGCGGCGAGATTCGATCGCTGCTGACTAACCAGATTAACCGC 3661
QY 2407 TACGGATGTCAGCGATTCAGGGCGAGCTGACGCGGCGAGCGGTGGCCAGCGTGGCGCG 2466
Db 3662 AGCGTATGACAAAAATTCAGSCCGCATTTGCGCTGTCGGCAGGGGCGCACACAGCGCGCGCG 3721
QY 2467 ACATCGTCAGCAGCGCTGTGCCAGCAGCAAGTCTGCTGGCGAGCGACCTGATGCG 2526
Db 3722 ATATTGTTGAACAGCGGATGCG-GACCTGTACCGCACTACTCAGTGGGCGAGATTAATGCA 3780
QY 2527 CACGCAATACGATGATTTTGGTGGTGTGGATGCGGAAATGGCTTTGATTTGGCGTGGC 2586
Db 3781 ACCGCACTATGATCTCATTTCTGGTGGTGGCGGTCTGGCTTAATGGCCCTTATCGCGCTCG 3840
QY 2587 TCTGGTCAATTCAGGCCACAACATGAAATGCTGTTGCTGGAGAGCGATGGCGATCCCGC 2646
Db 3841 GCITTCAGCAACAGCATCCGATATGCGGATCTTGCTTATTGAGGCGGGTCTCTGAGGCGGG 3900
QY 2647 AGGCAATCATACCTGGTGTTCATACAGAGCATCTCAGCGCGGCAACATTCGCTGGCT 2706
Db 3901 AGGGNACCATACCTGGTCTTTACAGAAAGAGATTTAACGCTGAATCAGCATCGCTGGAT 3960
QY 2707 GCAACCGCTGATTACCGTGGTGGTTCAGGTTATCAGGTGGGTTTTTCTCGCGCTGGCGCG 2766

Db 3961 AGCGCGCTTGTGGTCCATCACTGGCCCGACTACACAGGTTCGTTTTCCCCCAACGCGCTCG 4020
QY 2767 CAATCTGACGCGGATTAATGTTCCATCGCATCAGCGGATTTTGGCCGCCCATCTTTACGC 2826
Db 4021 CCAATGTAACAGTGGCTACTACTGCGTGAACCTCCCGGCATTTTCGCGGGATATCTCCGGCA 4080
QY 2827 GCGATGGGTGACCATCTGTGGACAAACACAGCCCTGCAACAGAGTAAACACCCACGCGGT 2886
Db 4081 ACAGTTTGGACAAACATTTATGGCTGCATACCGCGTTTCAGCCGTTTCATGCTGAATCGGT 4140
QY 2887 GACGCTGGCGGATGGCCGTGAACTTGTCTGGCAAGTGTGTGATGTGTGGCGGCTGCA 2946
Db 4141 CCAGTTAGCGGATGGCCGGATTAATTCATGCCAGTACAGTGCAGCGGACGCGGGTTACAC 4200
QY 2947 GCCGACGCCACATCTGCAGCTGGGTTATCAGTGTGTTCTTGGCAAGAGTGCACACTGCG 3006
Db 4201 GCCTGATTTCTGCACTACCGTAGGATTCAGGCAATTTATTCGTCAGGAGTGGCAACTGAG 4260
QY 3007 GCAGCCGACGCGCTGACAGCAGCCGATCCTGATGATGCCACCGTCCGATCAGCAAGCGGG 3066
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QY 3367 AGCGAGTTGTAGCAGCGCTGTTGGCCACCGCATGCCCTCAGCTCAGCCCAACATATCGA 3426
Db 4618 GGCGCATGCTCTACGCGCGCTGGATGTTTACCTCTCTCTCTGTTTACACAGACGATTTGC 4677
QY 3427 AGCTTTTGGCGCTCAGCAGTGGCGGCAACAGCGATTTTTCGCTCTGCTGTCTGCTGCTGCT 3486
Db 4678 TCACTTTGCCCAGCAACGTTGGCAGCAACAGGGGTTTTTTCGCGATGCTGATCGCATGTT 4737
QY 3487 GTTTTGGCGGTAAAGCGGACGAGCGCTGGCGGTGATGCAAGTGTGTTTACCGGCTCGA 3546
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Db 4798 CGAGATTTGATTCGCCGCTTTTATGCGGAAACTCACCCTGACCGATCGGCTACCGAT 4857
QY 3607 TCTGTGGGCAAGCGCGGTTGCCCATCGGTTGAAGCGCTGCGCGCTGTTTGAATTTCTGT 3666
Db 4858 TCTGAGCGGCAAGCGCGCGCTTCCGCTTTTCGCGCATTTGCGGCAATTTATGACGACTCA 4917
QY 3667 CGAACGAGGAGAAAAATGAAACGCACTTATGTGTAAGCGCTGCGCGCTGTTTGAATTTCTGT 3726
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QY 3727 GCGCTGGCGATTTCCCTCGAAGCGCGGCGATACCAACCTTACTTCAGCAGCGCGCAC 3786
Db 4978 GCATGGCAATTCGTTTACAGCGCGCAGGATTAATCCTGTTTGTGCTTGTGACAGCGCGCAC 5037
QY 3787 AAACCGGCGGACGCGCTATGTGTTTGAAGACAGTGGCTTTACCTTTGATTCGATCGCGGACCC 3846

Db	5038	AAGCCGGTGGCCGGGCTTATGTTTATCAGGAGCAGGGCTTACTTTTGATGACGGCCCT	5097	4927	ACACAGAAATGTTTACGCGGTTTGATTTTCGCGACACGCTGCATGCCCATCACGGCTCG	4986	
Qy	3847	ACGGTGATCACCGATCCAGCGCATCGAAGAGTTGTTCAGCTGGCGAGAAATTCGCTC	3906	Db	6178	ACGCACCGTATGTTTACGCGGTTTCGATTTTTCGCGACGAGCTCAATGCTGCGAAGGTTTCG	6237
Db	5098	ACCGTTATACCGATCCAGCGGATTTGAAGAACTGTTGCTTGGCCGGTAAACAGCTT	5157	Qy	4987	GCCTTTTCGCTGAGCGGATTTTTCGCAAGCGCTGTTTTCGCGCCCGCATAAACCGCAT	5046
Qy	3907	AGCGATTACGTGAGCTGATGCGGTAAACGCCCTTCTATGCCCTGCTGCGAAGATGGC	3966	Db	6238	GCCTTCTGGTTGAACTTATCTGACCCAGAGCGCTGGTTCCGACCAATACCGCGAT	6297
Db	5158	AAGGATTACGTGAGCTGTTTTCGCGGTCAACGCCGTTTATCGCCGTGCTGCGAGTCCGCG	5217	Qy	5047	GCCGATATCAGCAATCTTATCTGTTGGTGGTGCCTGTAACGATCCAGGCGGGGCTGCC	5106
Qy	3967	AAACAGCTTGATTACGCAATTAATCAGCCGCTGCTGAGCAGCAGATCGCCACGTTCAAT	4026	Db	6298	AAGCACATTGATTAATCTTATCTGTTGGCGCAGGCACCCATCTGCGCGGGCATTTCCC	6357
Db	5218	AAGTCTTCAATTACGATACGACCGACGCCAGTTAGAGCGCAGATACAGCAGTTTAA	5277	Qy	5107	GGCGTGTGCTGGTTCGGCAAGGCCACCGCAGGCTGATGCTGGAGGATCGCGCGCATGA	5166
Qy	4027	CCGCAAGATGAGAGGCTATCGTCAATTTCTGCCCTATTCACTGTAAGTATTTAGAGAG	4086	Db	6358	GGCGTAATCGGCTCGCGAAGCGCAGCGCAGGCTTAATGCTGGAGGACCTGATTTGACGA	6417
Db	5278	CCGCGCATGTTGCGGGTTATCGAGCGTTCCTTGACTATTTCGCTGCGGTATTCAATGAG	5337	Qy	5167	ATCGACAGCCTTTTACTTGTAGCAAGTAACGCAAAACCAATGGCGGTGGGCTCGAAAGATTTCG	5226
Qy	4087	GGTTATCTGAACCTCGGACGGTGCCTTCTGCAAGTGCAGGTGCGTGCATGCTCGCGTCCG	4146	Db	6418	AT--ACGTCATTACTGAAATCATGCCGTGCAAAACCATGGCGGTTGGCTCGAAAGCTTTG	6474
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCTTTTATCTGTTTCAAGACATGCTTCGGGCGCG	5397	Qy	5227	CCACCGCCGCAAGCTGTTTGTATGCAACCGCGCCGACGACGCTGATGCTGATGCTGATCGGT	5286
Qy	4147	CCGCAAGTTGGACGCTCTGCAAGCATGGCGAGCTCTACAGCATGGTGGCGAAATTTAT	4206	Db	6475	CGACTGCATCGACGCTTTTCGACGCCAAACCCGTCGACGCTGCTGATGCTTTACGCAT	6534
Db	5398	CCCAGTTTGGCAAGCTGCGAGCATGGCGAGCGTTTACAGTAAGTTGCGCGCTACATT	5457	Qy	5287	GGTGTGCTCACTGGGATGATGTTGATGCGCAGCGCCGACGACGCTGATGCTGATGCTGATCGGT	5346
Qy	4207	CAGGACGATCATCTGCGTCAAGCGGTTTTCCTTCCACTCATTTGCTGGTGGCGGTAATCC	4266	Db	6535	GGTGCCGCCACTCGCAGCAGCTCATTTGACATCAAAACACTGGGCTTTTCGCGGACGAGC	6594
Db	5458	GAGGATGAGCATCTTCGGCAGCGCTTTTCTTTTCACTCGCTCTTAGTGGGGGGAAATCCG	5517	Qy	5347	ATGCGGTGCAAGACGGCGCAGGACGATGACAGATCTGCAAAATGAAACCCGCGCGCCCT	5406
Qy	4267	TTTGCACGCTCATGATCTATACCTTAATTCATCGCTGGAGCGTGAATGGGGGCTGTG	4326	Db	6595	CCTCTTCGAGATGCTGAGCAGCGCTGCGAGCTTGAATGAAACCGGTGAGGCT	6654
Db	5518	TTTGCAACCTCGTCCATTTATACGCTGATTCACGCTTAGAAACGGGAAATGGGGGCTCTG	5577	Qy	5407	ACAGCGCGCGCACATGGATGAACCGCGCTTTAGGGCGTTTACGGAAGTGGCGATCATTC	5466
Qy	4327	TTTCCGCGCGCGCACCGCGCGCTGGTGACGGCATGGCGGACTGTTTCGAGGACTTG	4386	Db	6655	ACGCGCGTTTCGCAATGACAGCGCCGCTTTTTCGCGGCTTTACGAGGCTGCGGATGCGC	6714
Db	5578	TTTTCACCGCGTGAAACCGGTGCGCTGCTGCTCAATGGCATGATCAAGCTGTTTCAGGATCTG	5637	Qy	5467	ACAGCTGCGCGCAACACTGGCTTTGATCATCTGGAAGGCTTCGCTATGGATCAGCA	5526
Qy	4387	GGCGCGAGCTGTTACTGAAATGCCGAAGTGAAGCCAGCTGGAACCCAGCGGAAATCGCAT	4446	Db	6715	ATGATATCGCTCCCGCCTACGCGTTACCATCTGGAAGGTTTTCGATGATGATGCGCG	6774
Db	5638	GGCGCGAAGTCGTGCTTAAACCGCGCGTCACTCATATGGAACCCGTTTGGGACCAAGATT	5697	Qy	5527	ACGAACATTACGCGAGCTTCGATGACACGCTGCGTTACTGCTATCATCGCTCGCGGCGTGG	5586
Qy	4447	AGCGCGTTTCAAGTTAGAGGGCGGACGCTTCGATGCGCGCGCTGGCCCTCCAAATGCC	4506	Db	6775	AAACCGCTACCTGACACTGACGATACGCTGCTGCTTATGCTATCATCGCTCGCGGCTGTTG	6834
Db	5698	CAGGCGTGCAGTTTGGAAAGACGGCAGACGGTTTGAACCTCGCGGTTGGCGTCAACGCT	5757	Qy	5587	TCGGTTTGTATGATGGCGCGGTAAATGGCGGTGGCGACGAAGCGGTGCTCGATCAGCGCT	5646
Qy	4507	GACGTGGTGATACCTACGACAAACTGCTTCGCCACCATCCGCTGGCAATGAACAGTGGC	4566	Db	6835	TGGGCTGTATGATGGCGCAAAATTAATGGCGCTTCGCGATAACGCCACGCTCGATCGCGCT	6894
Db	5758	GATGTTGTACATACCTATCGCGATCTGCTGTCTCAGCATCCGCGAGCGCTTAAGCAGCG	5817	Qy	5647	GCGATTTAGGACTGGCGGTTCCAGCTCACTAACATTTGCGCGGACATTTGTAGAAGATGCG	5706
Qy	4567	ACATGCTGAAGCGTAAAGCGATGAGCAACTGCGCTGTTGTGATCTATTTTGGCTGAT	4626	Db	6895	GCGATCTCGGGCTGGCTTTCAGTTGACCAACATTTGCGCGGTGATTTGTTCGACGATGCTC	6954
Db	5818	AAAAAACTGCAATCCAGCGTATGAGTAACCTCACTGTTGTACTCTATTTTGGTCTCAAC	5877	Qy	5707	AAAAATGCTGCTGCTATCTGCGCAATCTCGGCTCGATCAGCGCGGGATTTACGCGCCGATA	5766
Qy	4627	CAGCGCATGAACAGCTCGCGCACCAACCGCTGTTTGGCCCGCTTACGTTAGTTG	4686	Db	6955	AGGTGGCGCGCTGTTATCTGCTGAAAGCTGGCTGGAAGAGGAGGACTGACGAAGCGA	7014
Db	5878	CATCATCAGATCAACTCGCCCATCATACCGCTGTGTTTGGGCCACGCTACCGTGAAC	5937	Qy	5767	CGCTGACTGCAACCGCAACATGTTGACGCGCTCGCTCATCTGGCAGCGGTTTGTAGTGGCG	5826
Qy	4687	ATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCATCTTTTACCTGACCGC	4746	Db	7015	ATTATGCTGGCGCAGAAACCCGCGAGGCTTAAGCGCTTATCGCGGGCGACTGGTGTACGG	7074
Db	5938	ATTACGAAATTTTAAACATGATGCTCTGCTGAGGATTTTTCGCTTTTATTTACCGCA	5997	Qy	5827	AGGCGGAACCTTATTTATCATCGCGCGGATCCGGGTTTACCGGTTTACCGCTGCGCTCG	5886
Qy	4747	CCCTGACAGCGATTCGCTGCTGGCACCGCCCGCTCGCGAGCTTTTATGTGTAGCG	4806	Db	7075	AAGCGGAACCTTATTTATCGTATCATTAATGGCGGCTGTGGCACAAATTTACCTTACGCTCG	7134
Db	5998	CCTTGTGTCAGCGATCCGCTCACTGGCAACCGGAAGGCTGGCGCAGCTATTATGTGTGCG	6057	Qy	5887	CGTGGGCCATCGCTACGCTCGCGCGTTTTATCCGGAATTTGGCGTTCAAAAGTTTACGACG	5946
Qy	4807	CCGGTGGCGATCTCGGACCGCTGCATCGACTGGCAACAGGAAGGACCGGCTTGGC	4866	Db	7135	CCTGGCCATCGCGACAGCGAGGAGGTTTACCGTTAAATTTGGCGTGAAGTTGNACAGG	7194
Db	6058	CCTGTTCCACACTTAGGCAACCGCGAACTCGACTGGCGGTAGGAAGGACCCCGACTGCG	6117	Qy	5947	CCGTTGTGACGCTTGGGATTTCAAGGAGCGGCAACAGTTAAAGGTGAAGAAATTCGCGCTGC	6006
Qy	4867	GATCGAAATTTTGTCTTATCTGGAGCAGCACTACATGCGGGGATTAAGTACAGCAATAGTG	4926	Db	7195	CCGTAAGCAGCGCTGGGATCATCGCCAGTCCAGCTCCACCGCGGAAAAAATAACGCTTT	7254
Db	6118	GATCGTATTTTGTACTTCTTGAGCAACATTATACATGCTGCTGGCTTGGGAAGCCAGTTGGT	6177				

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RESULT 4

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US-10-735-019-28
; Sequence 28, Application US/10735019
; Publication No. US20040191863A1
; GENERAL INFORMATION:
; APPLICANT: E. I. duPont de Nemours and Company, Inc.
; APPLICANT: Cheng, Qiong
; TITLE OF INVENTION: Mutations Affecting Plasmid Copy Number
; FILE REFERENCE: CL2029 US NA
; CURRENT APPLICATION NUMBER: US/10/735,019
; CURRENT FILING DATE: 2003-12-12
; PRIOR APPLICATION NUMBER: US 60/434973
; PRIOR FILING DATE: 2002-12-20
; NUMBER OF SEQ ID NOS: 28
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 28
; LENGTH: 8609
; TYPE: DNA
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Plasmid pPCB15
US-10-735-019-28
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Query Match 37.4%; Score 2619.6; DB 8; Length 8609;
Best Local Similarity 64.7%; Pred. No. 0;
Matches 4015; Conservative 0; Mismatches 2169; Indels 24; Gaps 7;

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3306
4501 TAGCTTAAACGCGGATTAATCGTCAGTTTGGCAACAGCAAC---CGCAAGCTGTAGCGG 4557
4557
3307 CTTGCGCGCGGCTGTTTTCATGCCACCGGTTACTCTCTGCGCTGCGCGCTGGCGCT 3366
3366
4558 ATTACGCGCGGCTGTTTTCATCCGAAACCGGCTACTCTCTACCGCTGCGGTTGGCGCT 4617
4617
3367 AGCGGATTTGTTAGCAGCGCTGTTTGGCCACCGATGCCCTCACGCTCAGCGCAACATATCGA 3426
3426

Db	4618	GGCCGATCGTCTCAGCGCGCTGGATGTGTTTACCTCTTCTGTTTACACAGAGATTGC	4677	Db	5698	CAGGCGGTGCAGTTTGAAGACGGCAGACGGTTTGAACCTCGCGCGGTGCGTTCGAACGCT	5757
Qy	3427	ACGCTTTGGCCGTCAGCAGTGGCGCAACAGCAGGATTTTCCGCTCTGCTAAACCGCATGCT	3486	Qy	4507	GACGTGGTGCACTACCTACGACAAACCTGCTTCCGCCACCTATCCGCTGGCAATGAAACCTGGC	4566
Db	4678	TCATTTGCCAGCAACGTTGGCAGCAACAGGGGTTTTTCCGCAATGCTGAATCGCATGTT	4737	Db	5758	GATGTGTACATACCTATTCGGATCTGCTGTCTCAGCATCCCGCAGCCGCTAAGCAGGCG	5817
Qy	3487	GTTTTGGCGGTAAGCCGAGCAGCGCTGGCGGTGATGCAACGTTTATACCGGCTCGA	3546	Qy	4567	ACATCGCTGAAGCGTAAGCGCATGAGCACTCGCTGTTTGTACTCTATTTTGGCCCTGAAT	4626
Db	4738	GTTTTATAGCCGACCGCCGAGTACGCTGGCGTGTGATGCAAGCTTTCTATGGCTTACC	4797	Db	5818	AAAACTCAATTCGAAGGTATGATTAACCTCACTGTTTGTACTCTATTTTGGTCTCAAC	5877
Qy	3547	TGCGGGTAAATTTAGCCGCTTTTACGCGGGCAACTGCGCTCGCGGATAAACCGGGAT	3606	Qy	4627	CAGCGCATGAACAGCTCGCGCACACACCGCTCTGTTTGGCCCGGTTTATCGTGAAGTTG	4686
Db	4798	CGAGGATTTGATTTGCCGCTTTTATGCGGAAACCTACCGTGACCGATCGGCTACGCAT	4857	Db	5878	CATCATCAGATCAACTCGCCCATCATACCGTCTGTTTGGGCCACGCTACCGTGAACCTG	5937
Qy	3607	TCTGTGCGCAAGCCCGTGCCTATCGGTGAAGCGCTGCGCGCTGTGTGAATTTCTGT	3666	Qy	4687	ATCGATGAGATTTTCAACAGCAGCCAGCTGGCAGACGATTTTTCATTTTACCTGCAAGCG	4746
Db	4858	TCTGAGCGCAAGCCCGCTTCCCGTTTTTCGGGCATTTGCAGGCAATTAAGCACTCA	4917	Db	5938	ATTACGAAATTTTAAACCATGATGCTCTGGCTGAGGATTTTTCGCTTTATTTTACACGCA	5997
Qy	3667	CGAACAGGGAAGAAATTAAGCACTTATGTGATTTGGCGCAGGCTTTGGCGGCTG	3726	Qy	4747	CCCTGACAGCAGATCCGTCGCTGGCACCGCCCGCTGGCGAGCTTTTATGTGTTAGCG	4806
Db	4918	TCGTTGAAGAGCGACTACATGAACCAACTACCGTAAATTTGGTGGGCTTTTGTGGCCTG	4977	Db	5998	CCTTGTGTACCGATCCGTCACCTGGCACCGGAAGGTGCGGAGCTATTTATGTCTGGCG	6057
Qy	3727	GGCTGGCATTCGCTGCAAGCGCGGCATACCAACACCTTACTCGAGCAGCGGAC	3786	Qy	4807	CGGTTGCCCATCTCGGCACCGCTGACATCGACTGGCAACAGGAAGGACCGGCTTTCGCG	4866
Db	4978	GCACTGGCAATTCGTTTACAGCGCGCAGGTATTCCTGTTTGTCTTGGAGCAGCGGAC	5037	Db	6058	CTGTCTTCCACACTTAGGCAAGGCACTCGACTGGCGGTAGAAGGACCCGACCTGCGC	6117
Qy	3787	AAACCGGGGAGCGCGCTATGTGTTTGAAGCAGTGGCTTTACTTCGATGCGGACCC	3846	Qy	4867	GATCGAATTTTGTCTTATCTGAGCAGCACTACATGCCCGGATTTAGTCAAGCAATTTAGTG	4926
Db	5038	AAGCGGGTGGCGGCTTATGTTTATCAGGACGAGGCTTTACTTTGATGACAGCCCT	5097	Db	6118	GATCGTATTTTGTGACTTACCTTGAGCAACATTAATCATGCTTGGCTTGGAAAGCCAGTTGGTG	6177
Qy	3847	ACGGTATACCGATCCAGCGCCATCGAAGAGTGTTCACGCTGGCAGGAAATCGCTC	3906	Qy	4927	ACACACAGATTTTACGCGCTTGTGATTTTCCGCAACGCTGCATGCCCATCACGCTCG	4986
Db	5098	ACGGTTATCACCAGTCCAGCGGATTAAGAACTGTGTGCTCTGGCGCGTAAACAGCTT	5157	Db	6178	AGCACCCTGATGTTTACGCGCTTTCGATTTCCGCGAGAGCTCAATCCCTGGCAAGGTTTCG	6237
Qy	3907	AGCGATTACGTGAGCTGATCCGCTAAGCCCTCTATCGCTGTGCTGGGAAGATGGC	3966	Qy	4987	GGGTTTTCCGCGAGCCGATTTTACGCAAGCGCTGTTTCCGCCCGCATTAACCCGAT	5046
Db	5158	AAGGATTTACGTGAGCTGTTGCCGGTACGCCGTTTTATCGCTGTGCTGGAGTCCGGC	5217	Db	6238	GCCTTCTCGTTGAACTTATCTGACCCAGAGCGCTGTTCCGACCAATACCCGAT	6297
Qy	3967	AAACAGCTTGATTAACGAATAATCAGCCGCTCTCGAGCAGCAGATCGCCACGTTCAAT	4026	Qy	5047	GGCGATATCAGCAATCTCTATCTGTGGGTGCGGTACCGATCCAGCGGGCGGCTGCC	5106
Db	5218	AAGGCTTTCAATTAACGATAACGACCGCCAGTTAGAAGCGCAGATACAGCAGTTTAAAT	5277	Db	6298	AAGCAATTTGATAAATCTTTATCTGTGTCGCGAGGACCCATCTCTGGCGGGCATTTCCC	6357
Qy	4027	CCGCAAGATGAGAGCTATGTCATTTCTTTCGCTATTCACGTGAAGTATTTAGAG	4086	Qy	5107	GGCGTATCGGTTCCGCCAAGCCACCGCAGCTGATGCTGAGGATCGCGCCGATGA	5166
Db	5278	CCGCGCATGTTGCGGGTATTCAGAGCTTCTTTGACTATTTCCGCTGTGCTGGAGTCCGGC	5337	Db	6358	GGGTAATCGGCTCGCGAAGCGCAGCGAGGCTTAATGCTGGAGACCTGATTTGACGA	6417
Qy	4087	GGTTATCTGAAACTCGGACGGTCCGTTTCTGACGCTGCTGACATGCTGCGCTCGC	4146	Qy	5167	ATCGACAGCGCTTTTACTTTGAGCAAGTAAACGCAACCAATGGCGGTGGCTCGAAGATTTTCG	5226
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCCCTTTTATCGTTCAAGACATGCTTCGGGCGCG	5397	Db	6418	AT---ACGTCAATTACTGAATCATGCCGTGCAAAACCATGCGGTTGGCTCGAAAAGCTTTG	6474
Qy	4147	CCGAGTTGGAGCTCTGCAAGCATGCGCAGCGCTCTACAGCATGTTGGCGAAATTTAT	4206	Qy	5227	CCACCGCCGCAAGCTGTTTGTATGACCGCGCCGAGCAGCTGATGCTGTATGCTGT	5286
Db	5398	CCCCAGTTGGCAAGCTGCAAGCATGCGCAGCGTTTACAGTAAAGTTGCGCGCTACATT	5457	Db	6475	CGACTGCATCGAGCTTTTCGACGCCAAAACCCGTCGACGCTGCTGATGCTTTACGCAT	6534
Qy	4207	CAGGACATCATCTGGTCAAGGCTTTTCTTCCATCATTTGCTGGGCGGTATTCCT	4266	Qy	5287	GGTGTGCTCACTGCGATGATGTTGATGGGCAACCGCTGGCGGAAGCGGCGCACGCGC	5346
Db	5458	GAGGATGAGCATCTTCGCAAGGCTTTTCTTTTCACTCGCTCTTGTAGTGGGGGGAATCCG	5517	Db	6535	GGTGCCGCACTCGGAGCAGCTCAITGACGATCAAAACACTGGGCTTTTCAGCCGACCGC	6594
Qy	4267	TTTGCAAGCTCATCTATCTTAATTTATGCTGCTGAGCGTGAATGGGCGGTGTGG	4326	Qy	5347	ATGCCCTCGAAGACGCGCAGGACGATGATGAGCATCTGCAAAATTTGAAAACCCGCGCGCT	5406
Db	5518	TTTGCAACCTCGTCCATTTATGCTGATTTACGCTGATTTACGCTTTAGAACGGGAATGGGCTCTG	5577	Db	6595	CCCTTTTCGAGATGCTGAGCAGCGCTGACAGCAGCTTGAATATGAAAACCGCTCAGGCT	6654
Qy	4327	TTTCCGCGCGCGCAACCGCGCTGTTGCAAGGCAATGCGGCACTGTTTCGAGGACTTG	4386	Qy	5407	ACAGCGCGCGCATGAGATGAACCGCGCTTTAGGCGGTTTACGGAAGTGGCGCATCTTC	5466
Db	5578	TTTCCAGCGGTGAAACCGGTGCGTGTCAATGGCATGATCAAGCTGTTTTCAGGATCTG	5637	Db	6655	ACCGCGTTTCGAAAATGACGAGCCGCTTTTTCGCGGTTTTCAGGAGTGGCGATGGCGC	6714
Qy	4387	GGCGGAGCTGTTTACGAATGCGGAAGTGAAGCAGCTGGAACCGAGGCAATCGCAT	4446	Qy	5467	ACCAGCTGCGCAACAACTGGGCTTTGATCATCTGGAAGCTTTCGCTATGGAATGCGCA	5526
Db	5638	GGCGGGAAGTCTGTGCTTAAACCGCGGCTCAGTCAATATGAAAACCGTTGGGGAAGAAT	5697	Db	6715	ATGATATCGCTCCGCGCTACGCGTTTCGACCATCTGGAAGGTTTTTGCATGGATGTGGCG	6774
Qy	4447	AGCGGCTTTCAGTTAGAGGCGGACAGCTTTCGATGCCCGCTGTGGGCTTCCAATGCC	4506	Qy	5527	ACGAACTTACCGAGCTTTCGATGACACGCTGCGTTTACTGCTATCACTGCGGGGCTGG	5586
				Db	6775	AAACGCGCTACCTGACACTGGACGATACGCTGCGTTTATGCTATCACTGCGCGGTGTTG	6834

Db 4501 TACGTTAAACGGGGGATAATCGTCAGTTTGGCAACAGCAAC---CGCAAGCCTGTAGCGG 4557
Qy 3307 CCTGCGCGCGGCTGTTTTCATGCCACACCGGTTACTCTGTGCGGTCGCGGCTGGGCT 3366
Db 4558 ATTACGGCGCGGCTGTTTTCATCGCAACACCGGTTACTCTCCCTACCGCTCGCGTGGGCT 4617
Qy 3367 AGCGGAGTTGGTAGCAGCGCTGTGTGCGCACCGATGCCCTCACGCTCAGCGCAACATATCGA 3426
Db 4618 GCGCGATCGCTCAGCGCGCTGGATGTTTACCTCTCTCTCTGTTTCAACAGCGATTGC 4677
Qy 3427 ACCTTTGCGCGTCAGCAGTGGCGGCAACAGCGATTTTTCGCTCTGCTTAAACCGCATGCT 3486
Db 4678 TCACCTTTGCCAGCAACAGTTGGCAGCAACAGGGGTTTTTCCGATGCTGAATCGCATGTT 4737
Qy 3487 GTTTTTGGCGCGTAAGCGCAGCAGCGCTGGCGGTGATGCAACAGTTTTCACCGGCTCGA 3546
Db 4738 GTTTTTAGCGGACCGCGCGAGTCACGCTGGCGTGTGATGACAGGTTTCTATGGCTTACC 4797
Qy 3547 TGCGGGTTAAATAGCGCTTTTACCGCGGCAACTGCGCTCGCGGATAAAAACGGGAT 3606
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Qy 3607 TCTGTGGGCAAGCGCGGTGCCATCGGTGAAGCGCTGGCGGCTGTGTAATCTGT 3666
Db 4858 TCTGAGCGGCAAGCGCGGCTTCCGTTTTTTCGCGGCAATTGCGGCAATTATGACGACTCA 4917
Qy 3667 CGAACAGGGAAGAAAAATGAAACGCATTTATGTGATGCGCGAGGCTTTGGCGGCTG 3726
Db 4918 TCGTTGAAGAGCACTACATGAAACMACTACCGTAAATTGGTGGGCTTTGGTGGCTG 4977
Qy 3727 GCGCTGCGGATTCGCTGCAAGCGGGGCGATACCAACCACTTACTTCGAGCAGCGCAC 3786
Db 4978 GCATGGCAATTCGTTTACAGCGCGCAGGTATTCCTGTTTTGCTGTGAGCAGCGGAC 5037
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Qy 3847 ACGGTATCACCATCCAGCGCATCGAAGAGTTGTTCACGCTGGCGAGGAAATCGCTC 3906
Db 5098 ACCGTTATACCATCCAGCGGATGGAAGAACTGTTGCTCTGCGCGGTAAACAGCTT 5157
Qy 3907 AGCGATTACGTCGAGCTGATCGCGTAAACGCCCTTCTATCGCTGTGCTGGGAAGATGGC 3966
Db 5158 AAGGATTACGTCGAGCTGTGCGGTCACGCGTTTTATCGCTGTGCTGGGAGTCCGGC 5217
Qy 3967 AAACAGCTTGATTCAGCAATAATCAGCCGCTGTGGAGCAGCAGATCGCCACGTTCAAT 4026
Db 5218 AAGGTCTTCAATTACGATAACGACCGGCCAGTTAGAGCGCAGATACAGCAGTTTAAT 5277
Qy 4027 CCGCAAGATGAGAGCTATCGTCAATTTCTTGCCTATTTCAGTGAAGTATTTAGAGAG 4086
Db 5278 CCGCGGATGTTGCGGGTTATCAGAGCTTCTTTGACTATTTCGCTGCGGTTATTCAAATGAG 5337
Qy 4087 GGTATTCTGAACTCGGACGCTGCGGTTTCTGAGGTGGTGACATGCTGCGGCTCGCG 4146
Db 5338 GGCTATCTGAAGCTCGGACATGTGCTTTTATCGTTCAAAGCATGCTTCGGCGCGC 5397
Qy 4147 CCGCAGTTGGGACGCTTCGAAGCATGGCGCAGCGCTCTACAGCATGTTGGCGAAATTTAT 4206
Db 5398 CCCCAGTTGGCAAGCTGCGGCAATGGCGCAGCGTTTACAGTAAAGTTGCGCGCTACATT 5457
Qy 4207 CAGGACGATCATCTGGTCAGGCGTTTCTTCCATCTATGCTGTGGGCGGTATCCCT 4266
Db 5458 GAGGATGAGCATCTTCGGCAGGCGTTTCTTTTCACTCTCTTATGTTGGGGGGAATCCG 5517
Qy 4267 TTTGCAACGTCATCGATCTATACCTTAATTCATGCGCTGAGCGTGAATGGGCGGTGG 4326
Db 5518 TTTGCAACCTCTGCTCAATTTATAGCTGATTCACGCGTTAGAACGGGATGGGCGTCTGG 5577
Qy 4327 TTTCCGCGCGGCGCACCGCGCGCTGGTGCAGGCGATGGCGACTGTTTCGAGGACTTG 4386

Db 5578 TTTCCACGCGGTGGAAACCGGTGCGCTGCTCAATGGCATGATCAAGCTGTTTTCAGGATCTG 5637
Qy 4387 GCGCGGAGCTGTTACTGAATGCCGAAGTGAAGCAGCTGGAACACCGCGCAATTCGATTT 4446
Db 5638 GCGCGGAGAGTCTGCTTAAACGCCCGGTGAGTATATGAAACCGTTGGGAGCAAGATT 5697
Qy 4447 AGCGGCTTCAGTTAGAGGCGGAGCAGCGCTTCGATGCGCGCTGTGGCTTCAATGCC 4506
Db 5698 CAGCGCTGTCAGTTGGAAGACGCGCAGACGCTTTGAAACCTGTCGCGGTGGGCTCGAACGCT 5757
Qy 4507 GACGTGTCATACCTACGACAACTGCTTCGCCACCATCCGCTGGCAATGAAACGTCGCG 4566
Db 5758 GATGTTGTACATACCTATTCGCGATCTGCTCTCAGCATCCCGACGCGCTAAGCAGCG 5817
Qy 4567 ACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTGTTGCTACTCTATTTTGGCTGAAT 4626
Db 5818 AAAAACTGCAATCCAAAGGTATGATTAATCTACTGTTTGTACTCTATTTTGGTCTCAAC 5877
Qy 4627 CAGCGCGATGAACAGCTCGGCGACACACCGCTCTGTTTGGCCCGGCTTATCGTAGTTG 4686
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Qy 4687 ATCGATGAGATTTTCAACAGCAGCAGCTGGCAGACGATTTTTCACTTTACCTGACGCG 4746
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Qy 4747 CCTGCGCAGCAGCATCCGCTGCGCACCGCCCGCTGCGGACGCTTTTATGTTGTAGCG 4806
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Db 6058 CCGTTTCCACACTTAGGCACGCGGAACCTCGACTGGCGGTAGAAAGACCCGACTCGC 6117
Qy 4867 GATCGAATTTTGTCTTATCTGAGCAGCACTACATGCGCGGATTTACGTACGCAATTAGT 4926
Db 6118 GATCGTATTTTGTGACTTACCTTGAGCAACATTTACATGCTGCTGCTTGGGAAGCCAGTTGGT 6177
Qy 4927 ACACACAGAAATTTTACGCGTTTGTATTTTCGCGACACGCTGCTGCCATCACGCGCTCG 4986
Db 6178 ACACACGATGTTTACGCGTTTGTATTTTCGCGACGAGCTCAATGCTTGGCAAGGTTTCG 6237
Qy 4987 GCGTTTTTCGCTGAGCGGATTTTACGCAAGCGCTGTTTCCGCGCGCATATAACCGCAT 5046
Db 6238 GCCTTCTCGGTTGAACCTTATTCGACCCAGAGCGCTGGTTCCGACCAACATAACCGCAT 6297
Qy 5047 GCGGATATCAGCAATCTCTATCTGTTGGTGGTGGCTGCGGATCCAGCAGCGCGGCTGCC 5106
Db 6298 AAGCACAATTTGATTAATCTTATCTGTTGGCGCAGGCAACCATCTGCGCGGGCATTTCC 6357
Qy 5107 GCGTGTATCGGTTTCGCGCAAGGCCACCGCCAGGCTGATGCTGGAGGATCGCGCCGAATGA 5166
Db 6358 GCGGTAATCGGCTCGGGAAGGCGACGCGAGGCTTAAATGCTGGAGGACCTGATTTGACGA 6417
Qy 5167 ATCGACAGCCTTTTACTTGAAGCAAGTAAACGCAACCATGCGGTTGGGCTCGAAGAGTTTCG 5226
Db 6418 AT---ACGTCATTACTGAAATCATGCGTGGAAACCATGCGGTTGGCTCGAAAGCTTTG 6474
Qy 5227 CACCCGCGCAAGCTGTTTGTATGACCGAGCGCGCGCAGCAGCTGATGCTGTATGCGT 5286
Db 6475 CGACTGCATCGACGCTTTTCGACGCCAAAACCCGCTGCGACGCTGCTGATCTTTACGCAT 6534
Qy 5287 GGTGCTGCTACCTCGCATGATGTTGATGGGCAAAACGCTGGCGGAAGGCGGACCGCAGC 5346
Db 6535 GGTGCGCCACTCGGACGAGCTGATGACATCAACACTGGGCTTTTCATGCGCACCGC 6594
Qy 5347 ATGCGCTCGAAGACGCGCAGGCAAGTATGAGCATCTGCAAAATTTGAAACCCCGCGCT 5406
Db 6595 CCTTTCGAGAGTGCCTGAGCAGCGCTGCGAGCAGCTTGAAATGAAACCGCGTCAGSCCT 6654
Qy 5407 ACAGCGCGCGCATGAGATGAACCGCGGTTTAGGCGGTTTACGGAAGTGGCGCATCATTC 5466
Db 6655 ACGCCGTTTCGCAAAATGACAGCGCCGCTTTTTCGCCGCTTTTTCAGGAGGTGCGATGGCGC 6714

QY 5467 ACCAGCTGCCGCAACAACTGGCGTTTGGATCATCTGGAAGCTTCGCTATGGATGCACGA 5526
DB 6715 ATGATATCGCTCCCGCTACGCGTTTCGACCATCTGGAAGGTTTTTGGCATGGATGTGGCG 6774
QY 5527 ACGAACATACGCGAGCTTCGATGACACGCTGCTTACTGCTATACAGTCGCGGGCGTGG 5586
DB 6775 AAACGCGCTACCTGACACTGGACGATACGCTGGTTATTGCTATACGTCGCGGTTGG 6834
QY 5587 TCGGTTTGTATGATGGCGCGGTTAATGGGGGTGGCGACGAAGCGGTGCTCGATCAAGCTT 5646
DB 6835 TGGGCTGTATGATGGCGCAAAATATGGGCGTTTCGCGATAACGCGACGCTCGATCGCGCTT 6894
QY 5647 GCGATTTAGACATGGCGGTTCCAGCTCACTAACATTCGGCGCGACATTTGTAGAAGATGCCG 5706
DB 6895 GCGATCTCGGCTGGCTTTTTTCCAGTTGACCAACATTCGGCTGTATTTGTGAGATGCTC 6954
QY 5707 AAAATGGTCTGCTATCTGCCCAATCTCTGGCTCGATCAGGGGGGATTCAGCGCGATA 5766
DB 6955 AGGTGGCGCTGTTATCTGCTGAAAGCTGGCTGGAGAGGAGGACTGACGAAGCGA 7014
QY 5767 CGCTGATCGACCGCAACATCGTGGACGCTCGCTCACTGGCAGCGGTTTATGGCGG 5826
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QY 5947 CCGGTTGTCAGCGCTGGGATTTACGCGACGCGACCAAGTAAAGTGAAGAACTGGCGCTG 6006
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DB 7255 TGTGACGGGATCGGTCAGGCAAGTTACTTCCGGATGAAGACGTATCCACCGCGCTG 7314
QY 6067 CTGCTCTGGCAGCGCTCGTTGATTTACGTCGCTGACGCTGGCGCAGCGTGGCTTG 6126
DB 7315 CTATCTCTGGCAGGCGCC-----GATCTAGCGCATGCTTCTCTCAGCGTTCGCTG 7368
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DB 7369 AAGTTTAGATAACCGTGGCGGTACAGAAAACCAAGGACACGCGCGCTCTTTTCCCTT 7428
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QY 6247 ATAGCGAAACGCGCAGCGTTGATGACACAGCGCATCGTGACCATGAAGTAGAGCGGCC 6306
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QY 6307 GTAGCTGATTCGCGCAACATCCACTGACGCGGCCCATATGCTTTCGACACGACATA 6366
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DB 7609 AATCAGGCAATCGACAAATGCGCAATATCCACGCGCATAGAGATCGTTAACTTCAAAATGC 7668
QY 6427 ACCGCTGTGGGTTTCATGGTCGACAGATGCGACCGCCCATCCCCAACCGTGCATGATGA 6486
DB 7669 GCCTTTACGCGGTTTCATGATGTGAAGATGCCAGCCCCAACCCAGCGGTGTCATGATGA 7728
QY 6487 TTTATGCGACAGCGCGCTACGATTTTCAATCAACCAACGCGTTCGCCAACAGATTAAGCAC 6546
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QY 6547 GTTCATTAACACAGACATTTGTTTCGTCCA 6574
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RESULT 9
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; GENERAL INFORMATION:
; APPLICANT: E. I. duPont de Nemours and Company, Inc.
; APPLICANT: Suh, Wonchul
; APPLICANT: Walters Pollak, Dana
; APPLICANT: Rouviere, Pierre
; TITLE OF INVENTION: BIOLOGICAL PRODUCTION OF TETRADEHYDROLYCOPENE
; FILE REFERENCE: CL2126 US NA
; CURRENT APPLICATION NUMBER: US/10/987,524
; CURRENT FILING DATE: 2004-11-12
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; LENGTH: 8609
; TYPE: DNA
; ORGANISM: artificial sequence
; FEATURE:
; OTHER INFORMATION: Plasmid pPCB15
US-10-987-524-49
Query Match 37.4%; Score 2619.6; DB 9; Length 8609;
Best Local Similarity 64.7%; Pred. No. 0;
Matches 4015; Conservative 0; Mismatches 2169; Indels 24; Gaps 7;
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DB 1627 CAGTTGCTGGCTGATATCGATAGCGCTTGTATCAGTTACTGCGGTTTCCAGGTGAGCG 1686
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QY 553 GATCTCGCTGTGCAAGTGAATTTGTCACGCGGATCGCTGATTTCTGATGACATTTCCC 612
DB 1807 GATTTAGCTGCGCGTTGAAATGTTGATGCTGCTGCTGCTGCTGATTTCTGATGATATGCC 1866
QY 613 TCGATGATTAACGCGCAGATGCTGCTGGTTCGCCCTACCGTGCATCGCAATTTGGTGAA 672
DB 1867 TGCATGAGCAGTGGCGCAGATGCTGCGGGGCGTCCACCATTCACACGCAATACGGTGAA 1926
QY 673 AAGTGGCGATTTCTGCCCGCATCGCGCTGCTTAGCGCGCATTTTGAAGTGAATTTGCCATT 732
DB 1927 CATGTGCGATTTCTGCGCGGCTGCTTTTACTCAGCAAGCGTTTGGGTGATTTGCCGAG 1986
QY 733 GCACCGCGTTTGGCTGCCATACATAAATCTGAAGCGATTTGCTGAACTCTTCCGCTGCGCT 792
DB 1987 GCTGAAGTCTGACGCGCATAGCCAAACTCGCGCGGTGTCGAGCTGTCCACTGCGATT 2046
QY 793 GGCTTCAGCGCTTAGTGCAAGGCAATTCAGGATCTGCACGACGCGCAGAGAGCCG 852
DB 2047 GGCATGAGGCTGCTGGTTTTCAGGGCCAGTTTAAAGACCTCTTCGGAAGCGGATAAACCCCGC 2106
QY 853 AGCCCGAAGCGCATGCCCATGACCAACGAACTGAAAAACAGCGTGTGTTTCGCGCACG 912
DB 2107 AGCGCGATGCCATCTGCTTAACCATCAGTTTAAAAACAGCACGCTGTTTTCGCGCTCA 2166
QY 913 CTCGAAATGCGCGGATTTGCCGTGACGCTTACCGCAGGTGCGGCAAGATTTAGCTTC 972
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Db	4381	CTACATTGACAGGCTAATCTTCAGGCGGACCGGCGCGTCAGAAATTCGCGGATATATGC	4440
Qy	3187	CAATACAGCAAGGCTGAGCGCTGAGTACGCTGCTGCGTGAAGACGACGCGCATATACCGAT	3246
Db	4441	TGCGGACACAGGCTTGCGCGTTACAGACGTTGCTGCGGGAAGAACAGGCTGCAATGCCCAT	4500
Qy	3247	TACCTGAGCGGCAACATCGATCGATTCTGGCAACAGCAGCGCGGCGCAAGCGTGCAGCGG	3306
Db	4501	TACGTTAAACGGGCGATAATCGTCAGTTTGGCAACAGCAAC---CGCAAGCCTGTAGCGG	4557
Qy	3307	CTGCGCGCGCGGCTGTTTCATGCCACACCGGTTACTCTCTGCGTTCGCGTTCGCGCTGCGCT	3366
Db	4558	ATTACGCGCGCGGCTGTTTCATCCGACCAACCGGCTACTCTCTACCGCTCGCGGTGGGCT	4617
Qy	3367	AGCGGAGTTGGTAGCAGCGCTGTGCGCCACCGGATGCCCTCACGCTCAGCGCAACATATCGA	3426
Db	4618	GGCCGATCGTCTCAGCGCGCTGGATGTGTTACTCTCTCTCTGTTTCAACAGCATTCG	4677
Qy	3427	ACGCTTTGCCGCTCAGCAGTGGCGGCAACAGCGATTCTTCGCTGCTGCTAAACCGCATGCT	3486
Db	4678	TCACCTTTGCCAGCAACGTTGGCAGCAACAGGGGTTTTTCGCGATGCTGAATCGCATGTT	4737
Qy	3487	GTTTTTGGCGGTAAGCGCGCAGCAGCGCTGGCGGTGATGCAACAGTTTTCACCGGCTCGA	3546
Db	4738	GTTTTTAGCGCGGCGCGCGAGTCAACGCTGGCGTGTGATGCGAGGTTTCTATGCTTACC	4797
Qy	3547	TGCGCGGTTAAATTAGCGCTTTTACGCGCGGCAACTGCGCTCGCGGATAAACCGGGAT	3606
Db	4798	CGAGGATTTGATTTGCCGCTTTTATGGGGAACATCACCGTGACCGATCGGCTAAGCAT	4857
Qy	3607	CTGTGCGGCAAGCGCGGCTGCCATCGGTGAAGCGCTGCGCGCTGTGAACTCTGT	3666
Db	4858	TCTGAGCGGCAAGCGCGCTTCCGCTTTTCGCGCAATTCGAGGCAATTATGACGACTCA	4917
Qy	3667	CGAACAGGGAAGAAAAATGAACGCATTTATGTGATTCGCGCAGGCTTTGCGGCGCTG	3726
Db	4918	TCGTTGAAGAGCGACTACATGAACCACTACCGTAAATTGGTCGGGCTTTGTGGCCTG	4977
Qy	3727	GCCTGGCGATTCGCTGCAAGCGGCGGCGATACCAACACCTTTACTCGAGCAGCGCAC	3786
Db	4978	GCATGGCAATTCGTTTACAGGCGCGAGGTATTCCTGTTTGTCTGTGAGCAGCGCGAC	5037
Qy	3787	AAACCGGCGGACGCGCTATGTGTTGAGGACAGTGCGCTTACCTTCGATGCGGACCC	3846
Db	5038	AAGCGGCTGCGCGGCTTATGTATTACAGGACAGGCGCTTACTTTGTATGACAGGCGCT	5097
Qy	3847	ACGGTATCACCGATCCAGCGCATCGAAGAGTTGTTACGCTGGCAGGAAATCGCTC	3906
Db	5098	ACCGTTATACCGATCCAGCGCATTTGAAGAACTGTTTGTCTGGCGCGGTAAACAGCTT	5157
Qy	3907	AGCGATTACGTCGAGCTGATCGCGGTAAACGCCCTTCTATCGCTGTGCTGGGAAGATGGC	3966
Db	5158	AAGGATTACGTCGAGCTGTTGCCGCTCACGCCGTTTTATCGCTGTGCTGGGAGTCGCGC	5217
Qy	3967	AAACAGCTTGATTACGCAATATATCAGCGCTGCTGAGCAGCAGATCGCAAGTTCAAT	4026
Db	5218	AAGGCTCTTCAATTACGATATACGATACGACGCGCCAGTTAGAACGCGCAGATACAGCAGTTTAAAT	5277
Qy	4027	CCGCAAGATGTAGAAGGCTATCGTCAATTTCTTGCGCTATTACGCTGAAGTATTATAGAG	4086
Db	5278	CCGGCGATGTTGGGCTTATCGAGCGTTCCTTGACTATTTCGCTGCGGTATTCATATGAG	5337
Qy	4087	GGTTATCTGAAATCTCGGCAAGGTCGCTTTCTGAGGTGGTGTGATGCTGCGCGTTCGCG	4146
Db	5338	GGCTATCTGAAGCTCGGCACTGTGCGCTTTTATCGTTTCAAGACATGCTTCGCGCGCGC	5397
Qy	4147	CCGAGTTGGGACGCTCTGCAAGCATGGGCGGCTCTACAGATGTTGGCGAATTTATT	4206
Db	5398	CCCCAGTTGGAAAGCTGCAAGGCATGGCGCAGCGTTTACAGTAAAGTTGGCGGCTACATT	5457
Qy	4207	CAGGACGATCATCTGCGCTCAGGCGGTTTTCTTCTTCCACTCATTTGCTGGGCGGTAATCCT	4266
Db			
Db	5458	GAGGATGAGCATCTTTCGCGCAGCGGCTTTTCTTTCTCACTCGCTCTTAGTGGGGGGAATCCG	5517
Qy	4267	TTTGCAACGTCATCGATCTATACCTTAATTCAATGCGCTGGAGCGTGAAATGGGCGGTGTGG	4326
Db	5518	TTTGCAACCTCTGCTCCATTATACGCTGATTCAAGGCTTAGAAACGGGAATGGGCGCTCTGG	5577
Qy	4327	TTTTCGCGCGGCGGACACGCGCGCTTGGTGCAGGGCATCGCGCATGTTTCGAGGACTTTCG	4386
Db	5578	TTTTCACAGCGGTGGAAACCGGTGCGCTGTGTCATATGGCATGATCAAGCTGTTTCAGGATCTG	5637
Qy	4387	GGCGGCGAGCTGTTACTGAAATGCCGAAGTGAGCCAGCTCGAAACCAAGCGCAATCCGATT	4446
Db	5638	GGCGGCGAAGTCGTGCTTAACGCCCGGTGAGTCATATGAAACCGTTGGGCAACAAGATT	5697
Qy	4447	AGCGGCGTTTCACTGAGGCGGGAACGCGCTTCGATGCCCGCGCTGTGCGCTTCCAATGCC	4506
Db	5698	CAGGCGCTGAGTTGGAAGACGCGCAGCGTTTGAACACCTGCGCGTGGCGTTCGAACGCT	5757
Qy	4507	GACGTGTCATACCTACGACAAACCTGCTTCGCCCACTCCGCTGGCAATGAAACGTCGCG	4566
Db	5758	GATGTTGTATACCTATACCGATCTGCTGTCTCAGCATCCCGCAGCCGCTAAGCAGGCG	5817
Qy	4567	ACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTTTGTACTCTATTTTGGCCTGAAAT	4626
Db	5818	AAAAAACTCCAATCCAAAGGTATGAGTAACCTCACTGTTTGTACTCTATTTTGGTCTCAAC	5877
Qy	4627	CAGCGCATGAACAGCTCGGCGCACACCGCTGTTTGGCGCGGTTATCGTGAGTTG	4686
Db	5878	CATCATCAGCATCAACTCGCCCATCATACCGTCTGTTTGGGCGCACGCTACCGTGAACTG	5937
Qy	4687	ATCGATGAGATTTTCAACAGCAGCAGCTGGCAGACGATTTTTCACCTTACCTTGCACGCG	4746
Db	5938	ATTACAGAAATTTTAAACATGATGCTGTGCTGAGGATTTTTCGCTTATTTATACAGCA	5997
Qy	4747	CCCTGACGAGCAGCATCCGCTGCTGGCACCGCGCTCGGCGAGCTTTTATGTTGTTAGCG	4806
Db	5998	CCTTGTGTACGCGATCCGCTCACTGCGCACCGAAGGCTGCGGACGCTATTATGTCGTGGCG	6057
Qy	4807	CCGCTCGCGATCTCGGCAACCGCTGACATCGACTGCAACAGGAAGGACCGCGCTTGGCGC	4866
Db	6058	CCCTGTTCCACACTTAGGCAACCGCAACCTCGACTGGCGCGGTAGGAAGGACCCCGACTGCGC	6117
Qy	4867	GATCGAATTTTGTCTTATCTGGAGCAGCACTACATCCCGGATTTAGCTCAGCAATTAGTG	4926
Db	6118	GATCGTATTTTGTACTACCTTGGAGCAACATTAATGCTGTGCTTGGAGCCAGTTGGTG	6177
Qy	4927	ACACACAGAAATGTTTACGCGCTTTGATTTTTCGCGACACGCTGCATGCCCATACGCGCTCG	4986
Db	6178	ACGCAACGATGTTTACGCGCTTCGATTTTCCGCGACGAGCTCAATGCTGGCAAGGTTTCG	6237
Qy	4987	GGCTTTTCGCTGAGCGGATTTTGGCAAAAGCGCTGTTTCCGCGCGGATTAACCGCGAT	5046
Db	6238	GCCTTCTCGGTTGAACCTATTCTGACCCAGAGCGCTGTTTCCGACCAATAACCCGCGAT	6297
Qy	5047	GCCGATATCAGCAATCTCTATCTGGTGGTGGCTGCGTACGATCCAGCGCGGCGCTGCC	5106
Db	6298	AAGCAATTTGATTAATCTTATCTGGTGGCGAGGCAACCCATCTGCGCGGCGGATTTCCC	6357
Qy	5107	GGCGTATCGGTTTCGCGCAAGGCCACCGCGAGGCTGATGCTGAGGATCCGCGCGAATGA	5166
Db	6358	GGCGTAATCGCTCGCGAAGGCGACGCGAGGCTTAATGCTGGAGGACCTGATTTTGACGA	6417
Qy	5167	ATCGACAGCCTTTTACTTGGCAAGTAAACGCAAAACCATGGGCTGGGCTCGAAGGTTTCG	5226
Db	6418	AT---ACGTCATTACTGAAATCATGCCGTGAAACCATTGGCGGTGGCTCGAAAGGCTTTG	6474
Qy	5227	CCACCGCGCAAGCTGTTTGTAGTCACCGCGCGCGCAGCAGCTGATGCTGTATCGCT	5286
Db	6475	CGACTGATCGACGCTTTTTCGACCCCAAAACCCGCTGCGAGCGTGTGATGCTTTACGAT	6534
Qy	5287	GGTGTCTCTACTCGCATGATGATTTGATGGGCAAAACGCTGGGCGAAGGCGGACGCGAGC	5346
Db	6535	GGTGGCGCACTGCGACGATCATTTGACGATCAAAACACTGGGCTTTTCATGCGCGACGAGC	6594

QY 5347 ATGCGTGCAGAGCGCGACGATGATGAGCATCTGCAAAATGAAACCGCGCGCT 5406
Db 6595 CCTTTCGAGATGCTGAGCAGCGCTGAGAGCTTGAATGAATAACGGTCAAGCT 6854
QY 5407 ACAGCGCGGCGACATGATGAACCGCGCTTGGGCTTTCAGGAAGTGGCGATATTC 5466
Db 6655 ACAGCGGTTTCGCAATGACAGAGCGCTTTCGCGGCTTTCAGGAGGTGCGATGCGC 6714
QY 5467 ACAGCTGCGCGCAACACTGCGCTTTCATCATCTGGAAGCTTTCGCTATGATGATGACGCA 5526
Db 6715 ATGATATCGCTCCGCGCTACGCGTTCACCATCTGGAAGGTTCGCTATGATGATGCGCG 6774
QY 5527 ACAGCAATATACGCGAGCTTCGATGACACGCTGCGCTTACTGCTATCAGCTGCGCGCGCTGG 5586
Db 6775 AAACGCGCTACCTGACACTGACATGACGATAGCTGCTGCTTATGCTATCATCGTGGCGGTGG 6834
QY 5587 TCGGTTTGTATGATGCGCGCGCTTAATGGCGTGGCGAGCAAGAGGTGCTCGATCAGCGCT 5646
Db 6835 TGGGCTGTATGATGCGCGCAATATATGGCGTTCGCGATAACCGCACGCTCGATCGCGCT 6894
QY 5647 GCGATTTAGACTGCGCTTCCAGCTCACTAACATGCGCGGACATTTAGAGATCGCG 5706
Db 6895 GCGATCTCGGCTGGCTTTCAGTTGACCAACATTCGCGGTGATTTGTGACGATGCTC 6954
QY 5707 AAAATGCTGCTGCTATCTGCGCAATCTGCGCTCGATCAGCGGGGATTAAGCGCGGATA 5766
Db 6955 AGTGGGCGCTGTTATCTGCTGAAAGCTGGCTGGAAGAGGAGTACGAAAGCGA 7014
QY 5767 CGCTGACTGACCGCAACATCTGTCAGCGCTCGCTCACTGGCAGCGCTTTAGTGGCG 5826
Db 7015 ATTATGCTGCGCGAGAAACCGGAGCGCTTAAAGCGTATCGCGGCGAGCTGTACGGG 7074
QY 5827 AGCGGNAACCTATTATCACTCGCGCGATCGCGTTTACCGGTTTACCGCTGGCGCTCG 5886
Db 7075 AAGCGGAACCTATTACGTATCAATGCGCGGTCTGGCACAATTAACCTTACGCTCGG 7134
QY 5887 CGTGGGCAATCGCTACGCGCTCGCGGCTTATCGGAAATGGCGTCAAAAGTTTCAAGCAG 5946
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QY 5947 CGGTTGACGCGTGGGATTCAGCGCAGCGCACAGTAAGTGAAGAACTGCGCTGC 6006
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QY 6007 TGGTAAAGGGGAGGTTTGGGATCACTTGGGTGTCTCTGCTTGAACCGGCTCGG 6066
Db 7255 TGCTGACGGATCGGTCAGGCGATTAATTCGCGATGAAGACGTATCCACCGGCTCTG 7314
QY 6067 CTGCTCTGCGCAGCGTCTGTTGATTTTACGTCGCTGACGCTGGCGCAGCGTGGCTTG 6126
Db 7315 CTATCTCTGGCAGCGCC-----GATCTAGCGCATGCTTCTCTCAGCGTGGCTG 7368
QY 6127 CAGCTTATTCAGCGGTGGCGGTAGAGAAACCAACGACAGCAGCGCTTTCAGCGCGCG 6186
Db 7369 AAGTTTAGATAACCGTGGCGGTACAGAAACCAAGGACACGCGCGCTCTTTCCCT 7428
QY 6187 CACCGCATGATGCGGTGGCGCATGATATAGCGCTTAAAGATAGCGCTTTGGCGGAT 6246
Db 7429 TACAGCATGATGATGCGGTGGCGCATGATATACCGTTTTCAGGTAGCGCTTTGGCGGTAT 7488
QY 6247 ATAGCGGAACGGCGGTTGATGACACCGCGCATCGTGACCATGAAGTAGAGCGCGC 6306
Db 7489 GTAGCGGAACGGCGCGCTGGTGTACGTCGCTGGACCAATAAAATACAGTAAC 7548
QY 6307 GTACGCTGCTATTCGCGCACCAATTCACCTGCGCGGCGCACATGCTTTGACACCGCATA 6366
Db 7549 ATAAGCGGTATGCTGACCAATTCACCTGAGCGCGCGAGATTCCTGTACTGCGGAAGTA 7608
QY 6367 AATCAGCACAATCGCGAGTACCGCAACACGCGCATAAAGATCGTTGTAGCTCAAACTT 6426
Db 7609 AATCAGGGCAATCGACAAATGGCGAATACCGGCAATAGAGATCGTTAACTTCAATGC 7668

QY 6427 ACCGCTGTGCGGTTTCATGTCGACAGATGCGCAGCCCAACCCCAACCGTGCATGATGA 6486
Db 7669 GCCTTTACGCGGTTTCATGATGTGAAGATGCCAGCCCAACCCCAACCGTGCATGATGA 7728
QY 6487 TTTATGCGACAGCGCGCTACGATTTCCATATCACACACCGGTTGCCAAAGATGAAGCAC 6546
Db 7729 TTTATGTCGAGTGCAGCAACCACTTCCATGCGGACCAACCGTGCAGACGATCAGGCG 7788
QY 6547 GTTCCATAACCCAGAGCATTTGTCGTCA 6574
Db 7789 ATTCCAAATCCACACATAATTTCTCA 7816

RESULT 10
US-10-810-733-20
; Sequence 20, Application US/10810733
; Publication No. US20050014219A1
; GENERAL INFORMATION:
; APPLICANT: E.I. du Pont de Nemours and Co., Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2385 US NA
; CURRENT APPLICATION NUMBER: US/10/810,733
; CURRENT FILING DATE: 2004-03-26
; PRIOR APPLICATION NUMBER: US 60/488,183
; PRIOR FILING DATE: 2003-07-17
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 20
; LENGTH: 9127
; TYPE: DNA
; ORGANISM: Pantoea stewartii DC413
US-10-810-733-20

Query Match 36.2%; Score 2533.4; DB 8; Length 9127;
Best Local Similarity 67.6%; Pred. No. 0;
Matches 3636; Conservative 0; Mismatches 1726; Indels 17; Gaps 5;

QY 1198 CTGTTTAAATCAACAGCTAGCGATATTCACCTAGCGCGGCTCAGCGGTCGGCCACTTTG 1257
Db 3699 CTGGCCAGCTGCGCTTGGCGCGTGCATCGCGCGGAGAAAGCTATGAGCCATTCG 3758
QY 1258 CGGTGATGCGCGCGCTCTACAGCACATTTTACGCGTTGACGGCTTAGCAAAACG 1317
Db 3759 CCGGATCGCCCTCCCTTTTACAGCACATGCGCGCGCTTTCAGGCGCTGCGCGAGAGC 3818
QY 1318 TGCTGGCGCGCGCATCGCATCACATTCATCCAGCAAGCGGATGCCGCACTTTGCTTA 1377
Db 3819 TGATAGCGCGCGCATCGGATCGGTTGACCTTTATTCAGCAGCGGAGGTTGCAACCTGCTCA 3878
QY 1378 GCGACGAAACGATCGATTTTGTTCGCTCGGCGCAACAGACGATCTTCGCGTTGCTGG 1437
Db 3879 GCGACGCGCTATCGGCTTTCAGGCAATCGGCTGGAAGCATCTCTGTCGCGACGCTG 3938
QY 1438 CGCCGCTGTTGATCGGCTGCGCTTCGCGCGCGCGCTGTCGCTTTTGGGTGATCGACG 1497
Db 3939 ACCGTACGCTGGCGCTGGCGCGCATCCGCGCGCTTGGGCAATTCGCGCTGATCGCGG 3998
QY 1498 ATCTCGGCTCTGACCGGATGCTGCGCGCAACCTGCTGGGTACTGAAAGCATTTGA 1557
Db 3999 ATATGCGACGACGATGCTGTCGCGGAGCTGCCGAGGCGCTGCGGCGCTGG 4058
QY 1558 ACATCATGCGCTGATCGCGCAAAATGGAAGCGCGGCGGATTCGTCGCTGAAGCGC 1617
Db 4059 CGGTAGATGCGGTGATCGTCATGATGCGGCGGCGGCTGTCGCGGAGGCGC 4118
QY 1618 TGCATCTGCGGTTGTTGCTGCGCTTCGCCCTTGGCGCTCAATCTGGAAGCGGGAATC 1677
Db 4119 TCGCGCTGCGCTTTCGTTTCGCTGCGCTGCGCGCTTCAATCTGGAAGCGGCAATTTTC 4178

QY 1678 CGCTTGGGTGATGCCCTTCCGTTTTCACAGGATGACAAAGCGCTGAAACGTTTTCAGG 1737
Db 4179 CATTCGCGGTTCATGCGCTTTTGTGGGGTACTAGCAGCGCGCGCGAGCGGTTCGCGT 4238
QY 1738 CCAGCAGCGATATCTATGATCGCATCATGCGTCACTACGCGGACGATCCTCAAAACAG 1797
Db 4239 CCAGCGAAATTTATGACTGCTGATGCGCAGCACGATCGGTGCTGGCGGCCATG 4298
QY 1798 CGCGGGGTTTAAATTGA CCGAAGCGCGCGGATTA CATCATAGTCTGTGCGCGCTGGCAC 1857
Db 4299 CCGACGCTTTGGCGCTTGCAGACCGCGCTCAGCGCGACCAAGTGCCTGTGCCGCTGGCG 4358
QY 1858 AATACAGCAGATGTCGCGCTTTCATTTTCCAGTCACTGAGCACTGCCCGCTGCTATC 1917
Db 4359 AATACAGCAGTGCAGCGCTTTCAGTTCCTGGCGCGGAGCTGCCGGCCCATTTCC 4418
QY 1918 ACGCCGTGGGGCACTCCGCGCCCGGTTTCTCTGCGCGCTCCATGCGCCCTGGCCAG 1977
Db 4419 ACGCCACCGCCGCTGGCGAACCAGCCCGCTGCGCAGCGC---CGCTGTTAGTA 4475
QY 1978 CGCTGCGTACGCGGTGTTTATGCTTCGCTGGGTACGCTGCAAGGCCATTCGCTTCGGC 2037
Db 4476 ACCGCGGCCAGCGCGCATTTTCGCTCGCTCGGCACGCTGCAGGGCGCGCTTACGGC 4535
QY 2038 TGTTCCTGATCTGGCGCAGCGGTGCGCAGCTGCGGCTATCGCTGGTATCGCCATT 2097
Db 4536 TGTTTAAACGCTGGCAAGCCCTGCGCGAACTGAGGGCGGAGCTGCTATCGCCACT 4595
QY 2098 GTGGGGATTAACGCGCAACAGACGATCAGCTGGAGCTTCGCTGGCGCGCTGGGTGA 2157
Db 4596 GCGCGGCTGAGGATTTTCAGCGCGTAACTGCTGCGCGCGGGCGGCGCAGGTAG 4655
QY 2158 CGGATTTGCTGATCAGCGCGCAGCCCTACAGCACGCGAGCTGTTTATCACTCATGCCG 2217
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QY 2278 CTTTGTATCAGCGCGGCTGGCGCGCATTGAGTGGCATGACGTTGGTTCGCGCGGCAT 2337
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Db 4836 CCGCGTTCTCCACAGCCATCAGATTGCGCGTCCCTGCGCTGCTGCGATGGTG 4895
QY 2398 GTTACGCGTACCGATGTACGATTCAGCGCGCATTCAGCGCGAGCTGCGCGAGGCGTTGCCAGC 2457
Db 4896 CGGTTAAGCAGCGCATGACGCGCTGACGCCAGCTGGCGCGCTGCGCGCGGTTCAGC 4955
QY 2458 GTGCCCGCAGCATCGTCAGCAGCGCTGTGCGCAGCAGCAAGTCTGCTGGCGAGCGCA 2517
Db 4956 GCGCGCTGAGATTACGAGCGCGCTGCTGACGCGCAGCGCGTGGCGCGGAGAT 5015
QY 2518 CTTGATGCGCACCGAATACGATGTGATTTTGGTGGTGTGATGCGATGCGGAATGGCTTGAT 2577
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Db 5075 GGGCTGCGGCTGAAAGCGCTCAGCGCGAGCTGCGGTGCTGCTGTTGATGCCACGC 5134
QY 2638 GCATCGCGCAGGCAATACCTGGTGGTTCATACAGCGATCTCAGCGCGCAAACT 2697
Db 5135 CCAGCGCGTGGCAATCACACCTGGTCTTTCAGGAAGGATCTCAGCGCGCGCAGCA 5194
QY 2698 TCGCTGCTGCAACCGCTGATTAACGCTGGCTGGTTCAGGTATCAGTGGCTGTTTCTGTC 2757
Db 5195 TCAGTGGATTGGCCCGCTGGTGGCGCACCGCTGGCGCGCACTACGAGGTATGCTTTCGCG 5254

QY 2758 GCTGCGCGCACTCTGACGGGGATTATTGTTCCATCGCATCAGCGGATTTTCCCGCCA 2817
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QY 2818 TCTTTTACGGCGGATGGGTGACGATCTGTGGGACAAACACAGCCGT7ACACAGGTAAAC 2877
Db 5315 GCTGCGCGGACGCTCGCGGACGCGCTGCGGCTTAACAGACCGTCCGACAGCGGCC 5374
QY 2878 CAGCAGGTGA CCGTGGCGGATGGCGGTGAA CTTGCTGGCAGAGTGGTGTATGATGTCG 2937
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Db 5435 CGGCTATACGCGGACGCGCGCTGCAGATTGGCTTTTCACTTTTGTCCGTAGGAGTG 5494
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Db 5495 GCGCTGAGCCAGCGCATCAGCTGGAGGGCGGATTCGATGAGCGCGCGCTGGATCA 5554
QY 3058 GCAAGCGGTTATCGTTTGTCTACAGCTGCGCTCAGGCGCGATCGGCTATTGATGA 3117
Db 5555 GCAGGGGGGTATCGCTTGTCTATACCTTGCCTCTCGCCGACGCTCTGCTGATTGA 5614
QY 3118 AGATACCCATTACGTTAAACAGCCGCTGGCGGAGAACACCGCTCGTCAGCACATCGC 3177
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Db 5969 CCGCATGCTGTTCTGCGCGCGAGGCGGATCGGCGCTGGCGGTAAATGACGCGCTTTTA 6028
QY 3538 CCGGCTCGATGCGGGTTAAATTAGCGCTTTTACGCCGGCAACTGCGCTGCGCGATAA 3597
Db 6029 CCGGCTGCGCGAGGGCTGATCGCCCGTTTACGCCGAGCGCTGACGCTGGCGCAGC 6088
QY 3598 AACCGGATTTCTGCGGCAAGCGCGTGGCCCATCGGTGAAGCGCTGCGCGCGCTGTT 3657
Db 6089 CCGCGCATTTCTAGCGGCAAGCGCGGCTCGCGGTGCTGGCGCGCTGAGGCTATCT 6148
QY 3658 GA---ATTCTGTGCAACAGGGAAGAAATAAGCAAGCATTTATGTTGGCGCAGGC 3714
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QY 3715 TTTGGCGGCTGCGCTGGCGATTTCGCTGCAAGCGCGCGGATACCAACCACTTACTC 3774
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QY 3775 GAGCAGCGGCAAAACCGGCGGACGCGCTATGTTGTTGAGGACAGTGGCTTACCTTC 3834
Db 6269 GAGCAGCGGCAAAACCGGCGGCGCTATGTTTATCAGGATCAGGCTTACCTTT 6328
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QY 6055 AACCGGTCGGCTGTGTGGAGCGTCTCTGTTGATTTTACGTCCTGAGCGCTGGCG 6114
DB 8545 CGCGGCTCTCGCGAGCTCTGCGAGCGTCCGGTTAGGCGGAGCGTCCGTTGAGCGCTGACG 8604
QY 6115 CAGCGTGGCTTGAGAGCTTATTCAGCGGTGGCGGTAGAGGAAACCAACGACACGAGCC 6174
DB 8605 CAGCGTGGCTGTAATTTCTCCAGCGCGCGGATAGAGGAAACCGAGAGAGCGAGTC 8664
QY 6175 TTCACGCCCGCACCGCATGATGTCATGCGGTGCGGCATGATATAAGCGCTTAAAGATAGCC 6234
DB 8665 TTCGCGCGCGCACCGCATGATGTCATGCGGTGCGGCATGATAGAGTCTTAAAGTAGCC 8724
QY 6235 TTTGCGGGGATATAGCGGAACCGCGCATGTCACAGGCGCATGTCGACCATGAA 6294
DB 8725 GCAGCGGTATGTACTTAAAGGCCAGCGCTGTGTACAGCCGCTCATGCAATATA 8784
QY 6295 GTAGAGCGCGCTGATGCTGCTTCCGCGACCAATCCACTGCGAGCGGCCACATGCTTG 6354
DB 8785 ATAGAGCAGCGGTAAAGCGTATGCTGCGCTATCCATGTAGCGGCCAGCGCGG 8844
QY 6355 CACACCGACATAAATCAGCAATCGCCAGTACCGCAACACCAACCGCATATAAGATGTT 6414
DB 8845 GCTGCCAGGTAGATCAACAGATCGCCAGCGGGAACACACAGCATAGAGATGTT 8904
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QY 6475 GTGATGATGTTATTCGACAGCGCGGTACGATTTCCATCACCACCGGTTGCAA 6534
DB 8965 GTGATATATATTTATGCGACAGCGCGGTGATCTCCATGCTAGCAGCGTCAGTAA 9024
QY 6535 CAAGATAAGCACGTTTCCATTAACACAGACGATTTGTTGTTCC 6573
DB 9025 TAGATCCAGCATTCACAAACACACAGCATATCTTCTCC 9063

RESULT 11

US-10-808-807-18
; Sequence 18, Application US/10808807
; Publication No. US20040253663A1
; GENERAL INFORMATION:
; APPLICANT: E.I. du Pont de Nemours and Co., Inc.
; APPLICANT: Cheng, Qiong
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; TITLE OF INVENTION: GENES ENCODING CAROTENOID COMPOUNDS
; FILE REFERENCE: CL2365 US NA
; CURRENT APPLICATION NUMBER: US/10/808,807
; PRIOR FILING DATE: 2004-03-24
; PRIOR APPLICATION NUMBER: US 60/477,874
; PRIOR FILING DATE: 2003-06-12
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 8814
; TYPE: DNA
; ORGANISM: Pantoea agglomerans strain DC404
US-10-808-807-18

Query Match 30.6%; Score 2138.6; DB 8; Length 8814;
Best Local Similarity 60.7%; Pred. No. 0;
Matches 3811; Conservative 0; Mismatches 2279; Indels 185; Gaps 12;
QY 309 ACCATGATAGCCATTATGACCAACCCATGTGACACACACAGCATCAGACAGCGAAT 368
DB 2384 ACGCGGGTACCAACCATGACAGACCCCTTTGAAACACATCCCGGTACAGCGGGAACT 2443
QY 369 CTTTCACTGACGCAAAATTTTACAGGCGCATCTTGAACATTTACTGCTGCGGACAGCA 428

DB 2444 GCATGAGCTGACAGCTGCGCTGCAAGCTGCGCTGGATGAATGCTGCTCCGCTTGGCGATGA 2503
QY 429 AAGCGATTCGCTGCGTGGCGGATGCGTCCGGAACGCTGGCGCAGGGAACAGTATTG 488
DB 2504 GGGGATCGGGTCAGCAGCGCAATGCGGAAGCGGTACTGGCACCGGGGAAACGCAATTC 2563
QY 489 TCTTTTATTACTGCTGCGCAGCGCGCATATGGGTTCGGAGTCAACCAAAATGGCGT 548
DB 2564 CCGCTGCTCTGATCTCTCGCGCCCGGACCTTCGGCTCGGATCGGACACACCCCGCCT 2623
QY 549 TCTCGATCTCGCTGTCAGTGGAAATGTCACGCGGATCGCTGATTTCTGATGACAT 608
DB 2624 GCTGATATGGCTGTGCGGTGGAATGTCACGCTCGTCTGATCTCTGACGATAT 2683
QY 609 TCCCTCGATGATTAACGCGAGATGCGTGTGTCCTTACCGTGCATCGCGAAATTTGG 668
DB 2684 TCCCTGATGATTAACGCGCGCTCCGCGCGGTCCCTTACCATTTTCATCGCCAGTATGG 2743
QY 669 TGAACAGTGGCGATTTCTCGCGCATTCGCGCTTACCGCGCATTTTGAAGTATTC 728
DB 2744 TGAAGACGTGGCAATTTCTCGCTGCGGTAGCTTTCAGAGCGCTTTTGGCGTATGTT 2803
QY 729 CATTCACCCCGTTTTCCTGCGCATATATAATCTGAAGCGATTGCTGAACTCTCCGTCG 788
DB 2804 CGCGCGCAGGATTTCTCTCCGAGTCCGACGCGGCGGAGCTGTCGATGCG 2863
QY 789 CGTTCGCTGCGAGGCTTAGTGAAGGCAATTCAGGATCTGACGACGCGCAGAG 848
DB 2864 GGTTCGCTACCCAGGCTGTGTGAGGTCAGTATAAGGATCTGCGTGAAGGCAACCGCCC 2923
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QY 909 CACGCTGCAAAATGCGCGCGATTTCCCGCTGACGCTTCCACGCGAGTGGCGGCAAGACTTAG 968
DB 2984 CACGCTGCAAAATGCGCGCGCTTCCGCGCAGCGCTTCCGCGCGCGCGCGGCGGCG 3043
QY 969 CTTCTTCGCGCGAGATTTGGCGCAGCGTTTCACTGCTGCGACGCTTCCGCGCAGCGTTG 1028
DB 3044 CTGCTTTTGGCGAGATTTAGGCGCAGCGTTTCCAGCTGCTGAGCGATCTGCGGACGCGCA 3103
QY 1029 CAAACACCGGTAAAGATGTGCACAGGATCAGGCAAAATCCACGCTGCTGACAGATGCT 1088
DB 3104 TGCGGGACCGGCAAAAGACATCAATGAAGCGGGTAACTCCACGCTGTGCGGATGCT 3163
QY 1089 CGGTGCTGACGCGCGGAAACGTCCTTGGCGGATCACCTGCGCAGCGCAGATGACACCT 1148
DB 3164 CGCAGCGAGCGGTGGCGAGCGGCTCGACACCCATCTGCGCGCGCAGACGCCCATTT 3223
QY 1149 TGCTGCGCTGCGATGCGGGCATTCGCGCATCGCCAAATATATGACGCGCTGTTTAAATCA 1208
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QY 1629 TTTGTTCCGTGGCTCGCGCTTGCCTGCTCAATCGTGAAGCCGGATTCGCTTGGCGGTG 1688
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QY 2169 GATCAGCGCGAGCCCTACAGCAGCGCAGCTGTTTATCACTCATGCGGGTTAAACAGC 2228
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[illegible]

RESULT 12

US-10-997-844-41
; Sequence 41, Application US/10997844
; Publication No. US20050124033A1
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Pamela L
; APPLICANT: Bosak, Melissa
; APPLICANT: Tao, Luan
; APPLICANT: Sedkova, Natalia
; APPLICANT: Cheng, Qiong L
; TITLE OF INVENTION: Optimized Bacterial Host Strains of Methylomonas sp. 16A
; FILE REFERENCE: CL-2230 US NA
; CURRENT APPLICATION NUMBER: US/10/997,844
; CURRENT FILING DATE: 2004-11-24
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; PRIOR APPLICATION NUMBER: US 60/527,877
; PRIOR FILING DATE: 2003-12-08
; NUMBER OF SEQ ID NOS: 53
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 41
; LENGTH: 8814
; TYPE: DNA

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4668 CCGTGCATACCGGCTACCTGACCATCACCTCCACGCGTTTTCGCGAAGCATGCGCGGCG 4727
2829 CGATGGGTACGATCTGTGCAAAACACAGCGGTACAAACAGGTAAACCCACACGAGGTGA 2888
4728 TGTGAAAGAGATTTGCTGACAAAGTGCCTGTCACGCGTGCAGCGGGGAGGAGTAA 4787
2889 CGCTGCGGATGCGCTGAACTTGTGCGCAAGTGTGATTTGATGTGCGGCTGCGGCTGCGAGC 2948
4788 CCCTCAGCGACGACGCTTTACCGCGGGCGGTGATTTGATGTCGCGCGCTATCAGC 4847
2949 CGACGCCCATCTGCGAGCTGGTTATCAGGTGTTTCTTGACAAAGTGTGAGCTGCGCGC 3008
4848 CTTGCGCGCACCTCAGCATTTGCGTATCAGCGCTTCATCGGCGAGGAGTGGCACTGACCG 4907
3009 AGCGCACGCGCTGCGACGACCGCATCTGATGATGCCACCGCTGCATCAGCAAGCGGTT 3068
4908 CGGCCACAGGGTTAAACGCGCCGATCTGATGATGCGCGCTGCGCCAGGGCAACGCT 4967
3069 ATCGTTTGTATACGCTGCGCTCAGCGCGATCGGCTATTTGATTTGAAGATACCCATT 3128
4968 ACCGCTTTGTATACCTGCGCTCAGCGCGACACCCCTGCTTATCGAAGACACGCACT 5027
3129 ACCTTAAACGCGCGCTGGCGGAGAACACCGCTCGTACGACATCGCGCATATGCCA 3188
5028 ACATTCAGCGCGCGCTGACCGCATTTACGCGCGCGCGGATTTGCGGATTTACGCCC 5087
3189 ATCAGCAAGCTGCGAGTACGCTGCTGCTGAAAGACGACGCGCATATTTACCGATTA 3248
5088 GCCAGAGGCTGCGAGCTTGGCGGCTGCTGCTGAGGAAACAGGGGCGCTGCGCATCA 5147
3249 CCCTGAGCGGCAACATCGATTCGCAACAGCAGCGCGCGCAAGCGTGTGAGCGGCGC 3308
5148 CCGTGTCCGCGCATCGCGCGCTTCTGGCAACAGTTCCATCATCAGCGCGTTCAGCGGCGC 5207
3309 TGGCGCGCGGCTGTTTTCATGCCACACCGGTTACTCTTCCGCTCGCGCTGGCGCTAG 3368
5208 TGGCGCGGCTGTTTCCATGCCACACCGGCTATTCGCTGCGCTGCGGCTGCGGCTGG 5267
3369 CGGATTTGTGAGCAGCGCTTTCGCCACCGATGCCCTCAGCTCAGCCAAACATATCGAAC 3428
5268 CGAACCGCATTTGCCAGCGCGCGGACTGCTCAGGGGCGCTTATCAGCTGATCGCG 5327
3429 GCTTTGCCGCTCAGCAGTGGCGGAAACAGCGATTTTTCGCTGCTGCTTAAACCGCATGCTGT 3488
5328 ATTTGCGCGCGCGCATGCGCAGACAAACGCTTTTTCGCGCTGCTTAAACCGCATGCTTT 5387

Db 3224 TTACGGCGCTCGCGAAACACAGGCGCACGCGCTTTATGACGCGCTGTTTCAAA 3283
Qy 1209 ACAGCTAGCGATATTCAACTAGCGCGCTCAGCGGTGGGCCACTTTGGGTGATCGCG 1268
Db 3284 ACAGCTGGCGCGTTTACGTAGCAACGGATACACCCGGTAATTTTGGAGATACA 3343
Qy 1269 CCGCGGTCTACAGCCACTTTTACGCGTTGACGCGTTAGCACAAACGCTGCTGGCGCG 1328
Db 3344 T-----GA 3346
Qy 1329 GGCCATCGCATCATTCATCCAGCAAGCCGATCCCGCACTTTGCTTAGCGCAAGCG 1388
Db 3347 AGGACGCGCATCTGGTTACGCGTAAATAATGACACCTGGATATCGTGTGACCCCTGACC 3406
Qy 1389 ATCGATTTTGTGCGGTGGCGCAACAGACGATCCTGCGCGGTTCGCTGGCGCGCGTGTG 1448
Db 3407 GGGCGATGATACCATTCGACACCGATTTGAGCGCTGGCGTTTGAACACTGC----- 3459
Qy 1449 CATCGGTGGCTCCGCGGGCGGCTGTGCTGTTTCGCGTGAATCGAGCATCTCGCGTCC 1508
Db 3460 -----GCCCTCCCGAGCTGGATCTCGACGGTATCGATCTCTCCACC 3501
Qy 1509 TGCACCGATATGCTGTCGGGAATCGCTGCGGTACTGAAAGCAATTTGAACATCGATGGC 1568
Db 3502 ACCCTGTTTCCCGCGCTGAAAGCCCGGTGCTGATCAGCTCCATGACCGCGGCGCG 3561
Qy 1569 GTGATCCCGACGAAATGGAGCGCGGGCGGATTTGTCGCTGAAGCGCTGCATCTCGCG 1628
Db 3562 GCGCGGCCAGAGACATTAACCGTCACTGCGCCAGCGGCGCAACCCCTTGGGCTGGCG 3621
Qy 1629 TTTGTTTCGTGGCTCGCGCTTCCCGGTCAATCGTGAAGCGCGGATTCGCTTGGCGGTG 1688
Db 3622 ATGGCGTGGTTTCCAGCGCTGGCGCTGGAGACGCGCGACGCGCTGATGCC 3681
Qy 1689 ATGCCCTTCGTTTGGACAGGATGACAAAGCGCTGAAAGCTTTTTCAGCGCAGCGCAT 1748
Db 3682 CAGCTACGCCATATCGCCCGCGAGCTGCGTGTG-----GCT 3720
Qy 1749 ATCTATGATCGCATATCGGTGCTGACGCGAGCTGATCTCAACACGCGCGCGCTTT 1808
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Qy 1809 AATTGACGAGCGCGCGGATTAACATCAGTGCTGTCGCGCTGGCACAAATCAGCCAG 1868
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Qy 1869 ATGTCGCGGCTTTGATTTTTCACGTCAGCAATCGCCGCTGCTATCAGCGCGTGGG 1928
Db 3829 GAGCGCTCCAGGGCGCGCGATTCGCACTGGCGCGCATCTCTCAACGCCATTTGCGCAG 3888
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Db 3889 CTGTCGCGACCTTCGCGGTACCGGTGGTGTAAAGAG--GTGGCGCGGGATCTCCC 3946
Qy 1989 CCGGTGTTTATGCTCGCTGGGTACGCTGCAAGGCCATCGCTTCCGCGTGTTCATGAT 2048
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Qy 2049 CTGCGCAGCGTGCGCCAGCTGCGGTATCGCTGTGATTCGCCCATTTGTTGGGGATTA 2108
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Db 4048 ---ACCCCCAGGGCGGAATGTGGCATGGCTTTTCCGACTGGGGCATTTCTACTG 4104
Qy 2169 GATCAGCGCGAGCCCTACAGACGCGCAGCTGTTTATCACTCATGCGCGGTTAAACAGC 2228
Db 4105 GATGCGTGGCTCGCGTCCATCTTGGCGTGCCTGATATCCGGTTATCGCTTCGCGCGC 4164
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4668 CCCTGCTAGCGCTACCTGACCATCTCCAGCGCTTTTTCGCGCAAGCGATGCGCGCGG 4727
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QY	3369	CGAGTGTGTAGAGCGCTGTTCGCCACCGATGCCCTCAGCCTCAGCCAAATATCGAAC	3428	QY	4443	CATTAGCGCGTTCACTTAGAGGCGGACGACGCTTCGATCGCGCGCTGTGGCTCCCAA	4502
Db	5268	CGAACCGCATTTGCCAAACGCGCCGGGACTGCACTCAGGCGCGCTCTATCAGCTGATCGCG	5327	Db	6348	GGTGAAGCGCTGCATCTCGTTTAA	6407
QY	3429	GCCTTTCGCCGTACAGCTAGTGGCGGAAACAGCGATTTTTTCGCTCTGCTAAACCGCATGCTGT	3488	QY	4503	TGCGGACGTGGTGATACCTACGACAAACTGCTTGCACCACTGCTTGCCTGGCAATGAAACG	4562
Db	5328	ATTTTCGGCGCGCCACTGGCAGACACACGCTTTTTCGCCCTGCTTAAACCGCATGCTTT	5387	Db	6408	CGCGGACGTGGTAAATACCTATGCGGACTGCTCGGCCATCACCGCACCGGCGCGCTAC	6467
QY	3489	TTTTTGGCCGGTAAAGCCGACAGCGCTGGCGCGTGATGCAACGTTTTTACCGGCTCGATG	3548	QY	4563	TGGGACATCGCTGAAGCGTAAGGCATGAGCACTCGCTGTTGTACTCTATTTTGGCCCT	4622
Db	5388	TCCTGGCCGGCACACCGACCGCTGGCGCGTGATGACAGCGTTTTTACCGCTTGAACG	5447	Db	6468	GGCCAAAAGCTGAAACGCAAGCGCATGAGCACTCGCTGTTGCTGCTCTATTTTGGCCCT	6527
QY	3549	CCGGGTAAATTAGCGCTTTTACCGCGGGCAACTGGCGCTGGCGGATGCAACCGGATTC	3608	QY	4623	GAATCAGCGCATGAACAGCTCGCGCACCACTGCTCTGTTTGGCCCGCTTATCGTGA	4682
Db	5448	AGCAGCTGATCGCCCGTTTTATATGCGCGCCAGCTTCGCTCCGCGCACCGCGCGCGCTGC	5507	Db	6528	GGATCACCATCACCCAGCTGGCGACCATACCGTCTGCTTGGCCCGGTTTAAAGC	6587
QY	3609	TGTGGGCAAGCGCGGTGCCCATCGTGAAGCGCTGCGCGCTGTT-----GAATT	3662	QY	4683	GTGTGATCGATGAGATTTTCAACAGCAGCGCTGGCAGACGATTTTTTTCATCTTTACCTGCA	4742
Db	5508	TGCTTGGCAACCGCCGCTGCGATGTGCGGGGATCAAAAGCCCTGCTCCACACTCATTT	5567	Db	6588	GCTTAATCGATGAAATTTTTCAGCGCGACACCTGTGCGAAGATTTTTTTCGCTCTATCTGCA	6647
QY	3663	CTGTGCAACAGAGGAAAGAAAATGAAACGCACTTATGTGATTTGGCGCAGGCTTTGGCGG	3722	QY	4743	CGGCGCTCGACAGCGATCGTCTGCTGGCACCGCCCGCTGCGGAGCTTTTATGTTT	4802
Db	5568	CTTCTCGAGGCCCATCATAAATGAAACAAACCATTTGTAATTTGGCGCGGGTTGCGCG	5627	Db	6648	TGCGCCCTCGTAACCGACCCGTCGCTGCGCCCGCGGGTGGCGAGCTACTATGTCT	6707
QY	3723	CTTGGCGCTGGCGATTCGCTGCAAGCGCGGGGATACCAACCACTTACTGAGCAGCG	3782	QY	4803	AGCGCGGTGCGCATCTCGGCACCGCTGACATCGACTGGCAACAGAAAGGACCGCGCTT	4862
Db	5628	ACTGGCGCTGGCGATTCGCTTCCAGCGCGGGCATTCCTACCACTGCTGGAGAGCG	5687	Db	6708	CGGCGCGGTGCGCACCTCGTTAAACGCCCGCTGACTGGAGGTGGAAGGCGCGTCT	6767
QY	3783	CGACAAACCGGGGAGCGCCTATGTGTTGAGGACAGTGGCTTTACCTTCATGCGCG	3842	QY	4863	GGCGCATCGAAATTTTTTGTCTTATCGAGCAGCATCATGCCCCGGGATTAAGTCAGCAAT	4922
Db	5688	CGACAAACCGGGCGCGCCTATGTCTAGGAAGATCGCGCTTTACCTTTGATGCGCG	5747	Db	6768	GGCGGATCGCATTTTTTGTATCTCGAAGCGCGTATATGCGGGGCTGCGCTCCAGCT	6827
QY	3843	ACCCACGGTGATCACCGATCCAGCGCCATCGAAGAGTTGTTCACGCTGACGAGAAATC	3902	QY	4923	AGTGACACACAGAAATGTTTACCGCGTTTGAATTTTCGGCACGCTGCTGATGCCATCACGG	4982
Db	5748	TCCACCGTCATCACCGATCCCTCCGCCATTGAGGAGCTGTTCACCTCCCGCGGAAACG	5807	Db	6828	GGTGACGACCGCATGTTTTCAGCGCGAAGATTTTTCGCGATACGCTGATGCGCTGGCAGGG	6887
QY	3903	GCTCAGCGATTAAGTCAGCTGATGCGCGGTAAACGCCCTTCTATGCGCTGCTGCGGAAGA	3962	QY	4983	CTCGCGCTTTCGCTGAGCGGATTTTTCAGCAAGCGCTGCTGCGCCGCGCATAAACCG	5042
Db	5808	GCTGAAGGACTACGTTGAGCTGATGCGCGGTGACCGCGTTCTATGCGCTGCTGCGGAAGA	5867	Db	6888	GTGAGGCTTTTACTGGAGCGGATCTCTACCCAGAGCGCTGCTTTCGGCGCGCACACCG	6947
QY	3963	TGGCAACAGCTTGATTTACGACAAATATCAGCGCTGCTGGAGCAGATCGCACGTT	4022	QY	5043	CGATGCGGATATCAGCAATCTCTATCTGTGGGTGCGGTPACGCTCCAGCGCGCGGCGT	5102
Db	5868	CGGCAAGGTTTTGACTACGCAACGATCAGCGCGCTTGTAGTCGAGATCGCGCGTT	5927	Db	6948	CGACAGGTGGTTGATTAACCTCTACCTGCTCGCGCGCGGAAACGATCCCGCGCTGCGCT	7007
QY	4023	CAATCCGCAAGATGAGAAGCTATCGTCAATTTCTTGGCTTATTCAGCTGAAGTATTAG	4082	QY	5103	GCCCGCGTGATCGGTTTCGGCNAAGCCACCGCACCGCTGATGCTGGAGATCGCGCCGA	5162
Db	5928	TAACCCGAAACGACGTGGCGGCTATCACCGCTTCTCGACTACTCCCGGCGGTGTTTC	5987	Db	7008	GCCGCGGTGATCGGATCCGCAAGGCAACCGGCCAGTTTAAATGTTAAAGGATTTAGCGTA	7067
QY	4083	AGAGGTTTCTGAAACTCGCACCGGTGCGGTTTCTGAGGTGCGTGACATGCTGCGCGT	4142	QY	5163	ATGAATCGACAGCTTTTACTTTGAGCAAGTAAACGAAACCATGCGGTGGGCTCGAAGAGT	5222
Db	5988	CGAAGGCTATCTGAAGCTCGCGCGGTGCCGCTTCTCTCGCTTTCGCGACATGCTGCGCGC	6047	Db	7068	ATG---TCCAGCGGCTTCTCGAAGCGCGCACCATGACCGCGGTTCTTAAAGT	7124
QY	4143	CGCGCCGAGTTGGAGCTGCAAGCATGCGCAGGCTCTACAGCATGTTGGGCAAT	4202	QY	5223	TTGCCACACCGCCCAAGCTGTTTGTATGCAACCGCGCGCGCAGCAGCTGATGCTGTAT	5282
Db	6048	CGTCTCACTGCGCGGCTGCAAGGATGCGCAGCGGTGACGAAAGTGTGCGGCTA	6107	Db	7125	TTGCCACCGCTCAAGGCTGTTTGACAAACGACCGCGCGCGCGCTGATGCTCTAT	7184
QY	4203	TATTCAGGACGATCATCTGCGTCAAGGTTTTTCTTCCACTCATTTGCTGGTGGCGGTAA	4262	QY	5283	GCTGTGTGCTCACTGCGATGATGATTTGATGAGGCAAAACGCTGGGCGAAGGCGGACG	5342
Db	6108	CGTGAAGACGAGCACCTCGCGCAGGCAATTTTCGTTTCACTCGCTGCTGTTGGCGCAA	6167	Db	7185	ACCTGTGCGCTACTGCGACGATGTTATCGACGACAGGTGTTGGGTTTTTGTGCGCCCG	7244
QY	4263	TCTTTTGGCAACGTCATGATCTATACCTTAATTCATGCGGTGAGCGTGAATGGGCGT	4322	QY	5343	CAGCATGCGTCCGAAGACGCGCAGGACGTTATCAGCATCTGCAAAATGGAACCCCGCGC	5402
Db	6168	CCCGTTCTCCAGCTTCTTATTTACCCCTGATCCAGCCCTGAGCGGGAATGGGCGT	6227	Db	7245	ACCGAGCAGAGCAGCACCGCCCGAGGCGCGCTGCAACGGCTGGTATAGATGACGCGCGC	7304
QY	4323	GTGGTTTTCCGCGCGCGCACCGCGCTGCTGCGAGGATGCGGACTGTTTCGAGGA	4382	QY	5403	GCCTTACAGCGCGCGCACATGAGTGAACCGCGGTTTTAGGGCGTTTTCAGGAAGTGGCGATC	5462
Db	6228	CTGGTTCCCGCGCGCGCACCGGTGCGTGGTTTCAGGGCATGTTGAAGCTGTTTCAGGA	6287	Db	7305	GCCTACGACGCGGAAACCATGCAAGAGCGCGCTTTCGCCCTTTCAGGAGGTGCGCTC	7364
QY	4383	CTTGGCGGCGAGCTGTTTACTGAATGCGGAAGTGAAGCGCTGGAACCAACGCGCAATCG	4442	QY	5463	ATTTCACAGCTGCGCAACAACTGGCGTTTGTATCATCTGAAAGCTTCGCTATGATGCA	5522
Db	6288	TCTTGGCGGCACTCACCCCTTAACGCTCAGGTTGAGCGGCTGAGAGCGGTGGACAATCA	6347	Db	7365	GCCCATGCCATTCGCGCTACTCAGGCTTCGACCACTGGAGGCTATGCAATGGAAGT	7424
				QY	5523	CGCAACGAACATTTACGCGAGCTTTCGATGACACGCTGCGTTTACTGCTATCACGTCGCGGC	5582

Db 6491 CTGGTGAATACCCACCGCGGTCTCAATACCGTACTGATGCGTGGCTGCCGCGACGCCG 6550
Qy 2259 ATGCTCGCGTGCAGATGCTTTTGTATCAGCCCGGCTGGCGCGGCAATGAGTGGCAT 2318
Db 6551 GTGCTGGCGGTGCCACTCTCTTTTCGACCAAGCCGCGGTGGCTGCCCGGTGGTCTATAAC 6610
Qy 2319 GAGCTTGTGTCGCGCGGATACAGCTTTAGCCGTGTTTCATCATCTGAGAGAGCATCTGCAG 2378
Db 6611 GGGCTGGGTGCGCGGGTATCGCGCTTTGCGCAGACAGCAGCGCTGGCGGATGAGATTGCC 6670
Qy 2379 CAGCTGCTGACACGACATCGTTACGCGTACGATGTCAGCGATTCAGGCGCAGCTGCAG 2438
Db 6671 CAACTGCTGGGGATGAGAGCTGCACTGCACTGCGTGTGGCGAGCGCCGCCAGCAGCTTAAC 6730
Qy 2439 CGCGAGGCGGTTGCGCAGCGTGCAGCGATCATCGTCGAGCAGCGCTGTGCCAGCAGCAA 2498
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Qy 2499 GTCGTCTGCGGAGGCGACCTGATGGCGACGCAATACGATGTGATTTTGGTGGTGGCTG 2558
Db 6778 -----AGCAGGGAGTGAGAGCGTATCGTAGGGATCTGATTTAGTCGGGGCG 6826
Qy 2559 GACTGGCGAATGCTTGAATTTGCGCTGCTGCTGCTCAATTTGCAAGCCACAACTGAAATGCC 2618
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Db 7487 AACCGGAGGAGACCGGCTGTCTGCCGATTACCTTGGCGGGTGAATCAAGGCTGTGGG 7546
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Db 7547 CCGATGCGCGCGGCTGCGCGCTCGGGAATGCGGCTGGGCTATTTTCAACCTACCACTG 7606
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Db 7607 GCTATTTCGCTGCGCTGGCGGTGGCGATTCGCGACGCGATTCGCGACAGCCCGCGGTG 7666
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Qy 3579 AACTGCGCTGCGCGATAAACCGCGATTCGTGCGGCAAGCCGCGGTGCCCATCGGTG 3638
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Qy 4176 CAGCGCTACAGCATGCTGGCGAAATTTATTCAGGACGATCATCTGCGTCAGCGGTTTC 4235
Db 8447 GAGCGTCTACAGTCTGGTTTCGCGCTTTATTTAGAGATGAGCATCTGCGCAGGCTTCTC 8506
Qy 4236 CTTTCCACTATTGCTGGCGGTAACTCTTTTGGCACTCATGATCTATACCTTAAT 4295
Db 8507 GTTCCACTCCCTCTGCTAGGCGCAACCCCTTCAACACCTCGTCTCATCACCCCTGAT 8566
Qy 4296 TCAATGCGCTGAGCGTGAATGGCGGTGTTTCCGCGCGGCGGCAACCGCGCGCTGGT 4355
Db 8567 CCAGCGCTTGAAGCGGAGTGGGGTCTGTTCCCTGAGGCGGCGCACCGGGGCGCTGGT 8626
Qy 4356 GCAGGCGCATCGCGCATGTTTCAGGACTTTGGCGCGGAGCTGTTACTGAATGCGGAGT 4415
Db 8627 GAACGGCATGTTGAAGCTGTTTACCGATCTGGGCGGAGATCGAACTCAACCGCCCGGT 8686

Qy	4416	GAGCCAGCTGGAACACGACGGAATCGCATTAGCGGGTTTCAGTTAGAGGCGGACGACG	4475	5496	CATCTGAAGGCTTCGTATCGATGACGCAACGAAACATACGCGAGCTTCGATGACACG	5555
Dd	8687	CRAAGACCTGGTGGCCGATACCGGTAAGCAGGTCCGGCTGGCGATGTCGAT	8746	9764	CACCTCAGCGCTTTCGATGGAGCTGGCTCAGACCCGCTATGTACCTTTGAGATACG	9823
Qy	4476	CTTCGATGCGCGCGCTGGCTCCAAATGCCGAGTGGTGATACCTACGACAACTGCT	4535	5556	CTCGTTACTGCTATCAGCTCGCGGGGCTGGTTCGGTTGATGATGGCGCGGTAAATGGC	5615
Dd	8747	CTTTGACACCGACCGCTAGCTCGAAGCGCTGACGTGTGAACACCTATATAAAGCTGCT	8806	9824	CTCGCTACTGCTATCAGCTGGCGGGCTGGTGGGTCTGATGATGGCCAGGTTGATGGC	9883
Qy	4536	TCGCCACATCCGCTGGCAATGAACGTGGACATCGCTGAAGCGTAAGCGCATGACAA	4595	5616	GTGCGCACGAAGCGGTGCTCGATCAGCTCGCTGCGATTTAGACTGGGCTTCAGCTCACT	5675
Dd	8807	CGGCCACATCCGCTGGCGGAGAGCGGCGCGAGCGCTGGAGCGAAGAGCATGAGCAA	8866	9884	GTGCGGATGAGCGGGTCTGGATCGCGCTCGCATCTGGGGCTGGCTTCAGCTGACG	9943
Qy	4596	CTCGCTGTTTACTCTATTTTGGCTGAATCAGCCGATGAAACAGCTCGCGCACACAC	4655	5676	AACATTGCGCGCGCAATTTAGAAAGATGCCGAAATGCTCGCTCTATCTGCCCAATCC	5735
Dd	8867	CTCGCTGTTTGTCTACTTTCGCTACTCCGCTGAACACGCTCATTTCCAGCTGGCGACATAC	8926	9944	AATATCCCGCGGATATTTAGCATGCGCTATTGACCGCTCTATCTGCCCGCGAG	10003
Qy	4656	CGTCTGTTTGGCCCGGTTATCTGATGTTGATCGATGAGATTTTCAACAGCAGCAGCT	4715	5736	TGGCTCGATCAGGGGGAATTTACGGCGGATACGCTGATGACCGCAACATCTGTCGACG	5795
Dd	8927	CATCTGTTTGGTCCCGCTACCGGAGCTGATCGAGAGATCTTTTACCGGACGGGCT	8986	10004	TGGCTGCAGGATGCGGGCTGACCCCGGAGAACTATGCGCGCGGAGAAATCGGCGCGC	10063
Qy	4716	GGCAGACGATTTTCACTTACCTGCAAGCGGCTGACGAGCATCGCTGCTGGCAC	4775	5796	CTGCGCTCACTTGGCAGCGGTTTAGTGGCGAGCGGAAACCTATTTATCTCTCGCGCGA	5855
Dd	8987	GGCGATGACTTCTGCTACTACCTGCACTCGCCCTGCGTGACCATCCCTGCTCGCGC	9046	10064	CTGCGCGGGTGGCGAGCGGCTTTTATGATGCCGAGAGCGGTACTACTCTCTCCAG	10123
Qy	4776	GCCCGGCTGGGACGCTTTTATGTTTATGCGCGGCTGCGCATCTCGGCACCGCTGACAT	4835	5856	TCGCGTTTACCGGTTTACCGCTCGCGCTCGGCGGCTCGCTACGCTCGCGGCGCT	5915
Dd	9047	TCCCGGCTGGCGAGCTTCTACGTGCTGGCCCGGTCGCGCATCTTGGCAACGGCGCGT	9106	10124	GCCGGGCTACAGATCTGCCCGCGGCTGCGCTGGGGATCGCAACGCCCGCAGCGTC	10183
Qy	4836	CGACTGSCAAACAGGAAGGACCGGCTTTCGCGATCGAATTTTTCCTTATCTGGAGCAGCA	4895	5916	TATCGCGAAATTTGGCGTCAAAGTTTACGACGCGGTTGACGCTGGGATTTACGGGAG	5975
Dd	9107	GGACTGGGCGCAGGAGGGCGGAAGCTGCGCACCGCATCTTTGACTACCTTTGAAGAGCG	9166	10184	TACCGGAGATCGTATTAAAGSTAAAGCGGCGGAGCGCGCTGGGATCGCGCGCAG	10243
Qy	4896	CTACATCCCGGATTAGCTAGCAATTTAGTGACACAGATGTTTACGCGCTTTGATTT	4955	5976	CGCACAGTAAAGGTGAAACTGGCGCTCTGTTGAAAGGGGCGAGTTTGGCGCATCACT	6035
Dd	9167	CTATATCCCGGCTGCTAGCAGCTGGTGGTACCGCGGATCTTTTACCGCGCAGACTT	9226	10244	CACACGAGAAAGGTGAAATAATTTCCATCTGATGGCGGACCGGGGCGAGTTATTCG	10303
Qy	4956	TCGCGACACGCTGATCCCATACGCGCTCGGCGTTTTCGCTGGAGCGGATTTTACGCA	5015	6036	TCGCGTGTGCTCTGCTCCTGAACCGCGCTCGGCTGCTGTGGCAGCGCTCTCTGTTGATTT	6095
Dd	9227	CCACGACACGCTGGATCGGATCTGGGATCGGCTTCTCCATCGAGCGGCTGTGACCCA	9286	10304	GCGAAGACGACGAGGTTGACCGCGCTCCGCGGCTCTTTGGCAGCGTCCCGTTTAGCG	10363
Qy	5016	AAGCGCTGTTTCGCGCGCATAAACCGGATGCGGATATCAGCAATCTCTATCTGGTGG	5075	6096	TAGCTCGTGAAGCTGGCGAGCGTGGCTTTCAGCTTATTTACGCGGTGGCGGTAGAGGA	6155
Dd	9287	AAGCGCTGTTTCGCGCGCATAAACCGGATGCGGATATCAGCAATCTCTATCTGGTGG	9346	10364	GGCGGCTATGACGTTTACGCGAGGATCGCTGTAGTCTCGCGAGGCTTTCGCGGCGTAAATAA	10423
Qy	5076	TGCGGTACCATCCAGCGCGGCTGCGCGGCTGATCGGTTGCGGCGAAGGCCACCG	5135	6156	AACCAACACGACGCGAGCTTTCAGCGCGCGCACCGCATGATGATGCGGTGCGGCATGT	6215
Dd	9347	CGCAGGTACTACCTTGGGCGGGCATTTCTGGCGTGTGCGCTTCGCGGAAAGCCACCG	9406	10424	AACCGAAGGAGACGACGCTTCCCGCGCGCACCGCGTGTGCGGCGGTGGCGAGCT	10483
Qy	5136	CAGGCTGATGCTGGAGGATCGCGCGCAATGAATCGACAGCTTTTACTTTGAGCAAGTAACG	5195	6216	ATAAGCGCTTAAAGATAGCTTTTTCGCGGGATATAGCGGAAACGGCGAGCTTGATGACCA	6275
Dd	9407	CAGCTGATGATGAGGATC---TGCAATGAGCAACCGCGCTGTGTGACCGCCACG	9463	10484	AGAGCGCTTTCAGTAGCCCCGCGCGGGATCCAGTGAAGGGCGAGGCTGATGACCA	10543
Qy	5196	CAAAACATGCGGTGGCTCGAAGAGTTTCGCCACCGCGCGCAAGCTGTTTGTATGACCG	5255	6276	GGCATCTGTCACATGAAGTAGAGCGCGCTGATGCTGCTCATTTCCGGCACCAATTCACCT	6335
Dd	9464	CAGACCATGCCAACGCTCGAAGAGTTTTCGCCACCGCTCGAAGCTGTTTCGACCCCGCG	9523	10544	GACCGTCTGTCACAGGAAGTAGAGGCGCATAGACCGTCTATGCCGAGCAATTCACCT	10603
Qy	5256	ACGGCGGACGACGCTGATGCTGTATGCGTGTGTGCTACTCGCATGATGATGAT	5315	6336	GCAGCGCCACATGCTTTCACACCGCATATAATCAGCAATCGCGAGTACCGCAACA	6395
Dd	9524	ACCGCGGTAGCGTGTGATGCTCTACACCTGCTGCGGCGCTGCGATGATGATGAT	9583	10604	GCAGGGGCCAAAACCGCGCGCTGCCACGGCAATCAGCGGATAGCAACCGCGGCAACA	10663
Qy	5316	GGGCAACGCTGGCGAAGCGGCGACGATGCGCTGCAAGACGCGGAGGAGCTATG	5375	6396	CCACCGCATAAAGATCGTTGAGCTCAAACTTACCGCTGTGCGGTTTATGTTGCGACAGAT	6455
Dd	9584	GACGAGCCACGCTTCGCGAGGAGCGCGCGGAGGAGGAGGAGGAGGAGGAGGAGGAGG	9643	10664	CCACCGCAAGAGATCGTTTGTCTCAATAGCGCTTTCGCGGGGATGTTGTTGACTCAT	10723
Qy	5376	CAGCATCTGCAAAATGAAACCCCGCGCGCTTACAGCGCGCGCACATGATGAACCGGCG	5435	6456	GCCAGCGCCATCCCAACCGTGTGATGATTTTATGCGACGCGCGCTACGATTTCCA	6515
Dd	9644	GCCCGGCTGCGACGCTGACCTTGGCGGCGTTTGAAGGGCGGAGATGAGGATCCGCGC	9703	10724	GCCAGCGCCATCCAGCGCTGATATGATGATGATGATGATGATGATGATGATGATGATGAT	10783
Qy	5436	TTTAGGCGCTTTCAGGAGGTGGCGATCATTCACAGCTGCGCGCAACATCTGGGCTTTGAT	5495	6516	TCACCAACCGTTGCCAACAGATAA	6542
Dd	9704	TTGCGTGCCTTTTTCAGGAGGTGGCGTACCCACGATTTACGCCCGCGCATGCGGCTCGAT	9763	10784	TCGCAATAACGCTCAAGATGACGATTA	10810

RESULT 15

US-10-997-844-6
; Sequence 6, Application US/10997844
; Publication No. US20050124033A1
; GENERAL INFORMATION:
; APPLICANT: Sharpe, Pamela L
; APPLICANT: Bosak, Melissa
; APPLICANT: Teo, Luan
; APPLICANT: Sedkova, Natalia
; APPLICANT: Cheng, Qiong L
; TITLE OF INVENTION: Optimized Bacterial Host Strains of Methylomonas sp. 16A
; FILE REFERENCE: CL-2230 US NA
; CURRENT APPLICATION NUMBER: US/10/997,844
; CURRENT FILING DATE: 2004-11-24
; PRIOR APPLICATION NUMBER: US 60/527,083
; PRIOR FILING DATE: 2003-12-03
; PRIOR APPLICATION NUMBER: US 60/527,877
; PRIOR FILING DATE: 2003-12-08
; NUMBER OF SEQ ID NOS: 53
; SOFTWARE: PatentIn version 3.3
; SEQ ID NO 6
; LENGTH: 5632
; TYPE: DNA
; ORGANISM: Pantoea agglomerans
US-10-997-844-6

Query Match 23.7%; Score 1661.4; DB 9; Length 5632;

Best Local Similarity 67.0%; Pred. No. 0;

Matches 2390; Conservative 0; Mismatches 1166; Indels 9; Gaps 2;

QY	2532	AATACGATGATTTGGTCGGTCTGGAGTGGCGAATGCTTGAATGGCGTGGCTGTC	2591
DB	886	AATGGGATCTGATTTCTGGTCGGCGGGCTGCCAACCGGGCTTATGGCGTGGCGACTAA	945
QY	2592	GTCAATTGGCAGGCACAACTCAATGCTGTGTGGAGAGCGATGCGCATCCGCGCAGGCA	2651
DB	946	AGCAGGCTATCCGAGCTTGTGTATTAATGCTGGAGTGGCGGAGCGGCCCGCGGAA	1005
QY	2652	ATCATACCTGGTCTGTTTCATCACAGCGATCTCAGCGCCGAAACAACTTTCGCTGGCTGCAAC	2711
DB	1006	ACCACACCTGGTCTTTCACCAACAGATATACGCGAGCCAGCAGCGCTGGCTGGCGC	1065
QY	2712	CGCTGATACCGTGGTGTGTGATCAGGTATCAGGTGGTGTTCCTGCGCTGGCGCGCAATC	2771
DB	1066	CGCTGGTGGCCCATCGCTGGGACGGGTACGACGTCCACTTTCCGAAACGTTGTCGCGCACCC	1125
QY	2772	TGACCGGGGATTTGTTCCATCGCATCAGCGGATTTTGGCCGCCATCTTTACGCGCGCA	2831
DB	1126	TGATGACGGCTACCTGACCATCACCTCCACGCGTGTTCGCAAGCGATCGCGGGCTGA	1185
QY	2832	TGGGTGACGATCTGTGGACAAACACAGCCGTACAAGGTAAACCCACGAGGTGACGC	2891
DB	1186	TGAAGAGAAATTTGCTGACAAACGTGACCGTGTACGCGGTGAGCGGCGAGGAAGTAACCC	1245
QY	2892	TGGCGATGGCCGCTGAACTTGTCTGCGCAAGTGTGATGATGTTGTCGGCGCTGACGCGGA	2951
DB	1246	TCAGCAGCAGCAGCAGCGCTTTACGCGCGGGCGGTGATTTGATGGCGCGGTATCAGGCCCT	1305
QY	2952	CGCCACATCTGACGCTGGGTATCAGGTGTTTCTTGACAAAGAGTGACGCTGGCGCAGC	3011
DB	1306	CGCGGCACCTCAGCATTTGGCTATCAGCGCTTCATCGCCAGGAGTGGCAACTGACCGCGC	1365
QY	3012	CGCAGCGCTGACGACGCGGATCTGATGATGCCACCGCTCGATCGATCAAGCAGCGGTTATC	3071
DB	1366	CCCACGGGTTAACGCGCGCGATCTGTGATGATGCCGCGTCCGCCAGGGCAACGCGCTACC	1425
QY	3072	GTTTTGTCTACGCTGCGCTCAGCGCGATCGGCTATTGATTGAAGATACCATTAACG	3131
DB	1426	GCTTTGTCTATACCTTCCGCTCAGCGCCGACACCTGCTTATCGAAGACAGCGACTACA	1485
QY	3132	TTAACAGCGCGCGCTGGCGGAGAACACACCGCTCGTACGACATCGCGGACTATGCGCAATC	3191
DB	1486	TTGACGGCCCGACGCTCGACGCGGATTTACGCGCGCGCGGATTTGCGGATTAACGCGCGC	1545

QY	3192	AGCAAGGCTGGACGCTGAGTACGCTGCTGCGTGAAGAGCAGCGCATATTACCGATTACCC	3251
DB	1546 <th>AGCAGGGCTGGCAGCTTGGCGCGCTGGTGGTGAAGAACAGGGGGCGCTGCCCATCACCC</th> <th>1605</th>	AGCAGGGCTGGCAGCTTGGCGCGCTGGTGGTGAAGAACAGGGGGCGCTGCCCATCACCC	1605
QY	3252 <th>TGAGGGGCAACATCGATCGATTCTGGCAACAGCAGCGCGGCAAGGTGAGCGGCTGCG</th> <th>3311</th>	TGAGGGGCAACATCGATCGATTCTGGCAACAGCAGCGCGGCAAGGTGAGCGGCTGCG	3311
DB	1606 <th>TGTCGGCGATCGGGCGGCTTCTGGCACAGTTCATCATCAGCCGGTTCAGCGGCTGCG</th> <th>1665</th>	TGTCGGCGATCGGGCGGCTTCTGGCACAGTTCATCATCAGCCGGTTCAGCGGCTGCG	1665
QY	3312 <th>GGCGCGGGCTGTTTCAATGCACACCGCTTACTCTTGGCGCTGCGCGTGGCGCTAGCGG</th> <th>3371</th>	GGCGCGGGCTGTTTCAATGCACACCGCTTACTCTTGGCGCTGCGCGTGGCGCTAGCGG	3371
DB	1666 <th>GGCGCGGTCTGTTCCATGCCACCGCTATTTCGCTGCGCTGGCGTTCGGCTGGCGG</th> <th>1725</th>	GGCGCGGTCTGTTCCATGCCACCGCTATTTCGCTGCGCTGGCGTTCGGCTGGCGG	1725
QY	3372 <th>AGTTGTAGCAGCGCTGTTGGCCACCGATGCCCTCAGCTCAGCCAAACATATCGAAGCT</th> <th>3431</th>	AGTTGTAGCAGCGCTGTTGGCCACCGATGCCCTCAGCTCAGCCAAACATATCGAAGCT	3431
DB	1726 <th>ACCGCATTCGCAACGCGCGGAGCTCATCAGGGCGGCTCTATCAGCTGATCGCGATT</th> <th>1785</th>	ACCGCATTCGCAACGCGCGGAGCTCATCAGGGCGGCTCTATCAGCTGATCGCGATT	1785
QY	3432 <th>TTGCCCGTCAAGCAGTGGCGGACAGGATTTTTCGCTGCTGATAAACCGCATGCTGTTT</th> <th>3491</th>	TTGCCCGTCAAGCAGTGGCGGACAGGATTTTTCGCTGCTGATAAACCGCATGCTGTTT	3491
DB	1786 <th>TCGGCGCGCCACTGGCAGACACAACGCTTTTTCGCGCTTCTTAACCGCATGCTTTTCC</th> <th>1845</th>	TCGGCGCGCCACTGGCAGACACAACGCTTTTTCGCGCTTCTTAACCGCATGCTTTTCC	1845
QY	3492 <th>TGGCCGCTAAGCGCGCAGCAGCGCTGGCGGTGATGCAACGTTTTTATCCGCTCGATGCCG</th> <th>3551</th>	TGGCCGCTAAGCGCGCAGCAGCGCTGGCGGTGATGCAACGTTTTTATCCGCTCGATGCCG	3551
DB	1846 <th>TGGCGCGCACACCGCAGCAGCGCTGGCGGTGATGACGCGTTTTTACCAGTTGACGAGC</th> <th>1905</th>	TGGCGCGCACACCGCAGCAGCGCTGGCGGTGATGACGCGTTTTTACCAGTTGACGAGC	1905
QY	3552 <th>GGTTAATTAGCGCTTTTACGCGGGCAACTGGCGCTGGCGGATATAAAACGCGGATTCTGT</th> <th>3611</th>	GGTTAATTAGCGCTTTTACGCGGGCAACTGGCGCTGGCGGATATAAAACGCGGATTCTGT	3611
DB	1906 <th>AGCTGATCGCGCGCTTTTATGCGCGCAGCTTTCGCTCCGCGCAGCGCGCGCTGCTGC</th> <th>1965</th>	AGCTGATCGCGCGCTTTTATGCGCGCAGCTTTCGCTCCGCGCAGCGCGCGCTGCTGC	1965
QY	3612 <th>GGGCAAGCGCGGTGCCATCGGTGAAGCGCTGGCGGCTGTT-----GAATTCG</th> <th>3665</th>	GGGCAAGCGCGGTGCCATCGGTGAAGCGCTGGCGGCTGTT-----GAATTCG	3665
DB	1966 <th>TTGGCAACCGCGGTGGCGATTGTCGGGCGGATCAAGCGCTGCTCCACATCAITCTT</th> <th>2025</th>	TTGGCAACCGCGGTGGCGATTGTCGGGCGGATCAAGCGCTGCTCCACATCAITCTT	2025
QY	3666 <th>TCGAAACAGGGAAGAAAAATGAACCGCATTTATGTGATTGGCGCAGGCTTTGGCGGCT</th> <th>3725</th>	TCGAAACAGGGAAGAAAAATGAACCGCATTTATGTGATTGGCGCAGGCTTTGGCGGCT	3725
DB	2026 <th>CTCTGCGAGCCCATCATTAATGAACAACCATTTGTAATTGGCGCGGTTTCGCGGACT</th> <th>2085</th>	CTCTGCGAGCCCATCATTAATGAACAACCATTTGTAATTGGCGCGGTTTCGCGGACT	2085
QY	3726 <th>GGCGTGGCGATTGCTGCAAGCGCGGCGATACCAACCACTTACTCAGAGCAGCGCGA</th> <th>3785</th>	GGCGTGGCGATTGCTGCAAGCGCGGCGATACCAACCACTTACTCAGAGCAGCGCGA	3785
DB	2086 <th>GGCGTGGCGATTTCGCTTCAGCGCGGCGCATTCCTACACGCTGCTGGAGAGCGCGA</th> <th>2145</th>	GGCGTGGCGATTTCGCTTCAGCGCGGCGCATTCCTACACGCTGCTGGAGAGCGCGA	2145
QY	3786 <th>CAAAACGGGCGGACGCGCTATGTTTGAAGGACAGTGGCTTTACCTTCGATGCCGAGC</th> <th>3845</th>	CAAAACGGGCGGACGCGCTATGTTTGAAGGACAGTGGCTTTACCTTCGATGCCGAGC	3845
DB	2146 <th>CAAAACGGGCGGCGGCTATGCTACGAAGATCGCGGCTTTACCTTTGATCGGGTCC</th> <th>2205</th>	CAAAACGGGCGGCGGCTATGCTACGAAGATCGCGGCTTTACCTTTGATCGGGTCC	2205
QY	3846 <th>CAGCGTATCACCGATCCAGCGCCATCGAAGAGTTGTTCCACGCTGGCAGGAAATCGCT</th> <th>3905</th>	CAGCGTATCACCGATCCAGCGCCATCGAAGAGTTGTTCCACGCTGGCAGGAAATCGCT	3905
DB	2206 <th>CACCGTCATCACGATCCCTCGCCATTGAGGAGCTGTTCCACCTCGCGGAAAAACGCT</th> <th>2265</th>	CACCGTCATCACGATCCCTCGCCATTGAGGAGCTGTTCCACCTCGCGGAAAAACGCT	2265
QY	3906 <th>CAGCGATTAGTCGAGCTGATGCGGTAAAGCGCTTCTATCGCTGCTGCTGGGAAGATGG</th> <th>3965</th>	CAGCGATTAGTCGAGCTGATGCGGTAAAGCGCTTCTATCGCTGCTGCTGGGAAGATGG	3965
DB	2266 <th>GAAGGACTAGTTGAGCTGATGCGCGTGAAGCGGTTCTATCGCTGCTGCTGGGAAGACG</th> <th>2325</th>	GAAGGACTAGTTGAGCTGATGCGCGTGAAGCGGTTCTATCGCTGCTGCTGGGAAGACG	2325
QY	3966 <th>CAAAACAGCTTGATTAGCAATAATCAGCGCTGCTGGAGCAGCAGATCCGACGTTCAA</th> <th>4025</th>	CAAAACAGCTTGATTAGCAATAATCAGCGCTGCTGGAGCAGCAGATCCGACGTTCAA	4025
DB	2326 <th>CAAGGTTTTCGACTACGCCAACGATCAGGCGGCGCTTGAAGTCGAGATCGCGGTTTAA</th> <th>2385</th>	CAAGGTTTTCGACTACGCCAACGATCAGGCGGCGCTTGAAGTCGAGATCGCGGTTTAA	2385
QY	4026 <th>TCGCGAAGATGTAGAAGGCTATCGTCAATTTCTTGGCTATTACGTTGAAGTATTAGAGA</th> <th>4085</th>	TCGCGAAGATGTAGAAGGCTATCGTCAATTTCTTGGCTATTACGTTGAAGTATTAGAGA	4085
DB	2386 <th>CCCGAACGAGCTGGCGGCTATCACCGTCTCTCGACTACTCCCGGCGGTGTTTGGCGA</th> <th>2445</th>	CCCGAACGAGCTGGCGGCTATCACCGTCTCTCGACTACTCCCGGCGGTGTTTGGCGA	2445
QY	4086 <th>GGTTATCTGAACCTCGGCAAGCTGCGGTTTTCGAGGTGGTGAATGCTGCGCGCTGCG</th> <th>4145</th>	GGTTATCTGAACCTCGGCAAGCTGCGGTTTTCGAGGTGGTGAATGCTGCGCGCTGCG	4145
DB	2446 <th>AGGCTATCTGAAGCTCGGCGGCTGCGGTTTCTCTCGTTTTCGCGGACATGCTGCGCGCG</th> <th>2505</th>	AGGCTATCTGAAGCTCGGCGGCTGCGGTTTCTCTCGTTTTCGCGGACATGCTGCGCGCG	2505
QY	4146 <th>GCCGAGTTGGGACGCTGCAACATGGCGCAGCTCTACAGCATGCTGCGGAAATTTAT</th> <th>4205</th>	GCCGAGTTGGGACGCTGCAACATGGCGCAGCTCTACAGCATGCTGCGGAAATTTAT	4205
DB	2506 <th>TCCTCAACTGGCGGCTGCGGATGGCGACGCTGTACGACAAAGTGTGGGCTACGT</th> <th>2565</th>	TCCTCAACTGGCGGCTGCGGATGGCGACGCTGTACGACAAAGTGTGGGCTACGT	2565
QY	4206 <th>TCAGGACGATCATCTGCGTCAGCGGTTTTCTTCCACTCATTTGCTGCTGGCGGTAATCC</th> <th>4265</th>	TCAGGACGATCATCTGCGTCAGCGGTTTTCTTCCACTCATTTGCTGCTGGCGGTAATCC	4265
DB	2566 <th>GGAAGACGAGCACTGCGGCGGCAITTTTCGTTTCACTCGCTGCTGCTGGCGGCAACCC</th> <th>2625</th>	GGAAGACGAGCACTGCGGCGGCAITTTTCGTTTCACTCGCTGCTGCTGGCGGCAACCC	2625

QY 4266 TTTTGCACGTCATCGATCTATACCTTAATTCATGCGTCGAGCGTGAATGGGCGTGTG 4325
Db |||||
QY 2626 GTTCTCCACGCTCTTCTATTTACACCTCGATCCACGCTCGAGCGGGAATGGGCGTCTG 2685
Db |||||
QY 4326 GTTTCGCGCGCGGCGACCGCGCGCTGTGTGACGGCATATGGCGCATGTTCGAGGACTT 4385
Db |||||
QY 2686 GTTCCCGCGCGGCGGCGACCGGTCGCTGTGTTCAGGGCATGGTGAAGCTGTTCAGGATCT 2745
QY 4386 GGGCGCGGAGCTGTCTACTGAATGCGGAAGTGAGCGAGCTGGAAACACGAGCGCAATCGCAT 4445
Db |||||
QY 2746 TGGCGGACCTTCACCTTAACGCTCAGGTTGAGCGGCTGGAGACGCTGACAAATCAGGT 2805
QY 4446 TAGCGCGCTTCAGTTAGAGGCGGACGACGCTTCGATGCCCGCTGTGGCTTCCAATGC 4505
Db |||||
QY 2806 GAAAGCGCTGCATCTGTGTAAACGGGACGCGCTGGAGGCTGGCGGCTCGAACGC 2865
QY 4506 CGAGCTGGTGCATACCTACGACAACTGCTTCGCGACCATCCGCTGCGCAATGAACGTCG 4565
Db |||||
QY 2866 GAGCGTGGTAAATACCTATGCGCGACTGCTCGGCCATCACCCGACGCGCGCTACGCG 2925
QY 4566 GACATCGCTGAAGCGTAAAGCGCATGAGCAACTCGCTGTGTGTACTCTATTTTGGCCTGAA 4625
Db |||||
QY 2926 CAAAAGCTGAAGCGAAGCGCATGAGCAACTCGCTGTGTGTGCTCTATTTTGGCCTGGA 2985
QY 4626 TCAGCGCGCATGAACAGCTCGCGCACCAACCGCTCTGTGTGTGGCCGCGTTCATCGTAGTT 4685
Db |||||
QY 2986 TCACCATCACACCGAGCTGGCGCACCATACCGTCTGTGTGTGGCCGCGTTATAAAGCGCT 3045
QY 4686 GATCGATGATATTTGAACAGCAGCAGCTGGCGACAGATTTTTCATTTACCTTGACGC 4745
Db |||||
QY 3046 AATCGATGAATTTTCAAGCGCGCACACCTGTGTGGAAAGATTTTTCGCTCTATCTGCAATG 3105
QY 4746 GCCTCGCAGCAGCGATCCGCTCGCTGGCACCGCGCTGGCGAGCTTTTATGTGTTAGC 4805
Db |||||
QY 3106 GCCTCGGTGAACGACCGCTGTGTGGCCCGCGCGGTGGCGAGCTACTATGTGCTCGC 3165
QY 4806 GCCCGTGCACGATCTCGGCAACCGCTGACATCGATGGCAACAGGAAGGACCGCGCTTGC 4865
Db |||||
QY 3166 GCCCGTGCACGATCTCGGTAACCGCGCTCGACTGGAGCGTGGAAAGCGCGCTCTGCG 3225
QY 4866 CGATCGAATTTTGTCTTATCTGAGCAGCAGCTATACGTCGGGATTAAGTCAGCAATAGT 4925
Db |||||
QY 3226 GSAATCGCATTTTGAATATCTGAAGCGCGCTATATGCCGGGGCTGCGCTCCAGCTGGT 3285
QY 4926 GACACACAGAAATGTTTACGCGCTTTGATTTTCGCGACACGCTGCATGCCCATCACGCTC 4985
Db |||||
QY 3286 GAGCACCGCATGTTTACGCGGGAAGATTTTCGGGATACCGCTGCATGCCCTGGCAGGGGTC 3345
QY 4986 GCGTGTTCGCTGGAGCGCATTTTGAAGCAAGCGCTGTGTTCGCGCCGCAATAAACCGCA 5045
Db |||||
QY 3346 AGCGTTTTCATGGAGCGGATCTTCAACAGAGCGCTGTTCGCGCGCGCACAAACCGCA 3405
QY 5046 TGGCGATATCAGCAATCTCTATCTGTGGGTGGGTACGATCGATCCAGCGCGGCGGTGCC 5105
Db |||||
QY 3406 CAGCGTGGTGTAAACCTCTACCTGTGTGGCGCGGAACGATCCCGCGCTGCGGTGCC 3465
QY 5106 CCGCGTGTATCGGTTTCGCGCAAGCGCACCGCGAGCTGCATGCTGAGGATCGCGCGAATG 5165
Db |||||
QY 3466 GGGCGGTATCGGATCCGCAAGGCAACGCGCCAGTTAATGTTAAAGATTTAGCGTAAATG 3525
QY 5166 AATCGACAGCCTTTTACTTGAAGCAAGTAAACGCAACCAATGGCGGTGGGCTCGAAGAGTTTC 5225
Db |||||
QY 3526 ---TCCAGCGCTTCTCGAAGCAGCGCGCGCACCATGACCGCGGTCTTAAAGTTTC 3582
QY 5226 GCCACCGCGCGAGCTGTTTGTATGACCGAGCGCGCGAGCAGCGCTGTGATGCTGTATGCG 5285
Db |||||
QY 3583 GCCACCGCTTCAAAGCTGTTTGAACACGCAACCGCGCGAGCGCTGTATGCTCTATACC 3642
QY 5286 TGTGTGCTCAGCTGCGATGATGATTTGATGGGCAACGCTGGGCGAAGCGGCGACGCGAG 5345
Db |||||
QY 3643 TGTGTGCGCTACTGCGACAGATGTTATCGACGAGAGGTGTGGGTGTTTGTGCCCCGACC 3702
QY 5346 CATGCGGTGCAAGACGCGGACGATATGACAGCATCTGCAAAATTTGAAACCCCGCGGCC 5405

Db 3703 GAGCAGAGCGACACGCGCGAGCGCGCTGCAACGGCTGCGTAAGATGACGCGCGCGGCC 3762
QY 5406 TACAGCGCGCGCACATGATGAACCGCGCTTTTAGCGGCTTTACAGGAAGTGGCGATCATTT 5465
Db 3763 TACAGCGCGGAAACCATGCAAGAGCGCGCTTCCGCCCTTTTACAGGAGTTGCGCTCGCC 3822
QY 5466 CACAGCTGCGCGCAACAACTGGGCTTTGATCATCTGGAAGGCTTCGCTATGATGATGACGC 5525
Db 3823 CATGCCATTCGCTACTCAGGCTTCGACCACTGGAAGGCTATGATGATGGAAGTGGCG 3882
QY 5526 AACGAACATTTACGAGCTTCGATGACACGCTGCTTTACTGCTATACGTCGCGGCGTG 5585
Db 3883 AACGAGCGCTATTACAGCTCGATGATACGCTCGCTACTGTTATACGTTGCGCGGCGTG 3942
QY 5586 GTCGGTTGATGATGGCGCGCTAAATGGGCGTGGCGACCAAGCGGTGCTCGATCAGCGC 5645
Db 3943 GTCGGCTGATGATGGCGAGGTGATGGAGTGGCGACCAAGCGCTGATGCGCGC 4002
QY 5646 TGGGATTTAGGACTGGCGTTCCAGCTCACTAAATTCGCGCGGACATTTGTAGAAGATGCC 5705
Db 4003 TGGGATCTGGCATTTGCTTTTACGCTCACCAATATCGCCAGGATATCGTTGACGATGCG 4062
QY 5706 GAAATGTTGCTGCTATCTGCGCAATCTGCTCGATCAGCGGGAATTAACGCGCGAT 5765
Db 4063 CAGGTGGAGCGCTGCTACCTGCGCAGCAGTGGCTGGCGGAAGTCGGAATCAATGAACAG 4122
QY 5766 ACCTGACTGCAACGCGCAACATCGTGCAGCGCTGCGCTCATGCGCAGCGGCTTTAGTGGCG 5825
Db 4123 ACCTGCAACGCTGGCGGCAACCGCTGCGCGCTGCGCGCTGCGCAGCGCGCTGATGACC 4182
QY 5826 GAGCGGAAACCTTATTAATCACTCGCGCGATCGGCTTTTACCGGTTTACCGCTCGCTCG 5885
Db 4183 GAGGCTGAGCGCTTATTAATCACTCAGCGCTTGGCGGCTGGGGAATCTGCCCTGCGCTCC 4242
QY 5886 GCGTGGGCAATCGCTACGCGCTCGCGGCTTTATCGGAAATTTGCGGCTCAAAAGTTTACGAC 5945
Db 4243 GCCTGGGCGATTTGCCACCGCGCATCGGCTGTATCGTGAGATCGGGGTGAAGTGTCTGATG 4302
QY 5946 GCCGCTGTGACCGCTGGGATTCACGCGCAGCGCACCAAGTAAAGGTGAAAACTGGCGCTG 6005
Db 4303 GCGGCTGAAAGAAACATGGGATACCCGCGAGGCAACGCGCGCGGAGAGCTGGCGCTG 4362
QY 6006 CTGCTGAAAGGGCGAGGTTTGGCGATCACCTTCGCTGTGTCTGCTCTGAAACCGCGTCCG 6065
Db 4363 GTTATTTCCGCGCGAAGCAGGCGATGGCTTCCGGAAGGAGCTGGCGCGCGAT 4422
QY 6066 GCTGGTCTGTGGCAGCGTCTCTCGTT 6090
Db 4423 CCGCACTCTGGCAGCGCGCGCT 4447

Search completed: November 25, 2005, 06:46:52
Job time : 4748 secs

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; PRIOR FILING DATE: 1999-11-09
; NUMBER OF SEQ ID NOS: 4472
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 223
; LENGTH: 783
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: nucleic acid sequence
US-10-793-626-223

Query Match 0.7%; Score 47.2; DB 1; Length 783;
Best Local Similarity 47.9%; Pred. No. 0.0058;
Matches 136; Conservative 0; Mismatches 148; Indels 0; Gaps 0;
QY 550 CTCGATCTCGCTGTCAGTGGAAATGGTGCACCGGCATCGCTGATTCGGATGACATT 609
DB 94 CTAATAGTCTTTAGCATTTGGAATGATTCATCTTATTTCTTAATTCATGATGATTA 153
QY 610 CCCTCGATGATAACGCGCAGATCGCTGCTGTCGCCCTACCGTGCATCGCGAATTTGGT 669
DB 154 CCAGCAATGATATGACGATTACCGTAGAGGAAAAATTAACAATCATAAAGTTTATGGT 213
QY 670 GAAAACTGGGATTTCTCGCGCCATCGCGCTGCTTAGCCGCGCATTTGAAGTGAATGCC 729
DB 214 GAATGGAAGCCATTCTTGTGCTGATGCATTATTAACAAAAGCTTTTGAATTAGTTTCT 273
QY 730 ATTGCACCCGGTTTGCCTGCATACATAAATCTGAACGATTGCTGAACCTCCGCTGCC 789
DB 274 AATGATACTACCATTTGAAGATAGTGTGAAAGTAAGTATTAATAAAGACTTTCAAAAGCA 333
QY 790 GTCGGCTCGAGCGCTTAGTCAAGGCAATTCAGGATCTGCA 833
DB 334 AGTGGACATTTGGGAATGGTGGTGGCCAGCGCTTGATATGA 377

RESULT 5
US-10-793-626-4144
; Sequence 4144, Application US/10793626
; Publication No. US20050255478A1
; GENERAL INFORMATION:
; APPLICANT: KIMMERLY, WILLIAM JOHN
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
; FILE REFERENCE: PU3480US
; CURRENT APPLICATION NUMBER: US/10/793,626
; CURRENT FILING DATE: 2004-03-04
; PRIOR APPLICATION NUMBER: 60/164,258
; PRIOR FILING DATE: 1999-11-09
; NUMBER OF SEQ ID NOS: 4472
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 4144
; LENGTH: 3444
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: nucleic acid sequence
US-10-793-626-4144

Query Match 0.7%; Score 47.2; DB 1; Length 3444;
Best Local Similarity 47.9%; Pred. No. 0.011;
Matches 136; Conservative 0; Mismatches 148; Indels 0; Gaps 0;
QY 550 CTCGATCTCGCTGTCAGTGGAAATGGTGCACCGGCATCGCTGATTCGGATGACATT 609
DB 958 CTAATAGTCTTTAGCATTTGGAATGATTCATCTTATTTCTTAATTCATGATGATTA 1017
QY 610 CCCTCGATGATAACGCGCAGATCGCTGCTGTCGCCCTACCGTGCATCGCGAATTTGGT 669
DB 1018 CCAGCAATGATATGACGATTACCGTAGAGGAAAAATTAACAATCATAAAGTTTATGGT 1077
QY 670 GAAAACTGGGATTTCTCGCGCCATCGCGCTGCTTAGCCGCGCATTTGAAGTGAATGCC 729

DB 1078 GAATGGAAGCCATTCTTGTGCTGATGCATTATTAACAAAGCTTTTGAATTAGTTTCT 1137
QY 730 ATTGCACCCGGTTTGCCTGCATACATAAATCTGAACGATTGCTGAACCTCTCCGCTGCC 789
DB 1138 AATGATACTACCATTTGAAGATAGTGTGAAAGTAAGTATTAATAAAGACTTTCAAAAGCA 1197
QY 790 GTCGGCTCGAGCGCTTAGTCAAGGCAATTCAGGATCTGCA 833
DB 1198 AGTGGACATTTGGGAATGGTGGTGGCCAGCGCTTGATATGA 1241

RESULT 6
US-10-793-626-3929/c
; Sequence 3929, Application US/10793626
; Publication No. US20050255478A1
; GENERAL INFORMATION:
; APPLICANT: KIMMERLY, WILLIAM JOHN
; TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
; FILE REFERENCE: PU3480US
; CURRENT APPLICATION NUMBER: US/10/793,626
; CURRENT FILING DATE: 2004-03-04
; PRIOR APPLICATION NUMBER: 60/164,258
; PRIOR FILING DATE: 1999-11-09
; NUMBER OF SEQ ID NOS: 4472
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3929
; LENGTH: 4045
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: nucleic acid sequence
US-10-793-626-3929

Query Match 0.7%; Score 47.2; DB 1; Length 4045;
Best Local Similarity 47.9%; Pred. No. 0.012;
Matches 136; Conservative 0; Mismatches 148; Indels 0; Gaps 0;
QY 550 CTCGATCTCGCTGTCAGTGGAAATGGTGCACCGGCATCGCTGATTCGGATGACATT 609
DB 2121 CTAATAGTCTTTAGCATTTGGAATGATTCATCTTATTTCTTAATTCATGATGATTA 2062
QY 610 CCCTCGATGATAACGCGCAGATCGCTGCTGTCGCCCTACCGTGCATCGCGAATTTGGT 669
DB 2061 CCAGCAATGATATGACGATTACCGTAGAGGAAAAATTAACAATCATAAAGTTTATGGT 2002
QY 670 GAAAACTGGGATTTCTCGCGCCATCGCGCTGCTTAGCCGCGCATTTGAAGTGAATGCC 729
DB 2001 GAATGGAAGCCATTCTTGTGCTGATGCATTATTAACAAAGCTTTTGAATTAGTTTCT 1942
QY 730 ATTGCACCCGGTTTGCCTGCATACATAAATCTGAACGATTGCTGAACCTCCGCTGCC 789
DB 1941 AATGATACTACCATTTGAAGATAGTGTGAAAGTAAGTATTAATAAAGACTTTCAAAAGCA 1892
QY 790 GTCGGCTCGAGCGCTTAGTCAAGGCAATTCAGGATCTGCA 833
DB 1881 AGTGGACATTTGGGAATGGTGGTGGCCAGCGCTTGATATGA 1838

RESULT 7
US-10-802-796-427
; Sequence 427, Application US/10802796
; Publication No. US20050250104A1
; GENERAL INFORMATION:
; APPLICANT: COLE, STEWART
; APPLICANT: BUCHRIEIER-BROSCH, ROLAND
; APPLICANT: GORDON, STEPHEN
; APPLICANT: BILLAULT, ALAIN
; TITLE OF INVENTION: A METHOD FOR ISOLATING A POLYNUCLEOTIDE OF INTEREST
; TITLE OF INVENTION: FROM THE GENOME OF A MYCOBACTERIUM USING A BAC-BASED
; TITLE OF INVENTION: DNA LIBRARY, APPLICATION TO THE DETECTION OF
; TITLE OF INVENTION: MYCOBACTERIA.

```
FILE REFERENCE: 05394.0011-00000
CURRENT APPLICATION NUMBER: US/10/802,796
CURRENT FILING DATE: 2004-03-18
PRIOR APPLICATION NUMBER: US/09/673,476
PRIOR FILING DATE: 2002-03-29
PRIOR APPLICATION NUMBER: PCT/IB99/00740
PRIOR FILING DATE: 1999-04-16
PRIOR APPLICATION NUMBER: 09/060,756
PRIOR FILING DATE: 1998-04-16
NUMBER OF SEQ ID NOS: 743
SOFTWARE: PatentIn Ver. 2.2
SEQ ID NO 427
LENGTH: 346
TYPE: DNA
ORGANISM: Mycobacterium tuberculosis
FEATURE:
NAME/KEY: modified_base
LOCATION: (188)
OTHER INFORMATION: a, t, c or g
FEATURE:
NAME/KEY: modified_base
LOCATION: (226)
OTHER INFORMATION: a, t, c or g
US-10-802-796-427

Query Match      0.6%; Score 42.2; DB 1; Length 346;
Best Local Similarity 59.7%; Pred. No. 0.081;
Matches 71; Conservative 0; Mismatches 48; Indels 0; Gaps 0;

Qy 5641 ACGCTCGGATTAGGCTGCGTTCCAGCTCACTAATCTGCGCGGACATTTGTAGAAG 5700
Db 16 ACGCGAGGAGTTGGGATGCTCTGAGCAACCATATTTCTGCGGAGGTTGAGAGG 75

Qy 5701 ATCCGGAATGTCGCTGCTATCTGCGCAATCTCTGCTGATTCAGGCGGATTCGC 5759
Db 76 ACTTTTGAATGGACGATCTACCTGCGCGGAGCTGGACCGATTAGCGGTACGC 134

RESULT 8
US-10-858-730-32
Sequence 32, Application US/10858730
Publication No. US2005025568A1
GENERAL INFORMATION:
APPLICANT: Bailey, Richard B.
APPLICANT: Blomquist, Paul
APPLICANT: Doten, Reed
APPLICANT: Driggers, Edward M.
APPLICANT: Madden, Kevin T.
APPLICANT: O'Leary, Jessica
APPLICANT: O'Toole, George
APPLICANT: Trueheart, Joshua
APPLICANT: Walbridge, Michael J.
APPLICANT: Yorgey, Peter S.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR AMINO ACID
TITLE OF INVENTION: PRODUCTION
FILE REFERENCE: 14184-030001
CURRENT APPLICATION NUMBER: US/10/858,730
CURRENT FILING DATE: 2004-06-01
PRIOR APPLICATION NUMBER: US 60/475,000
PRIOR FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: US 60/551,860
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 364
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 32
LENGTH: 1278
TYPE: DNA
ORGANISM: Streptomyces coelicolor
US-10-858-730-32

Query Match      0.6%; Score 41.2; DB 1; Length 1278;
Best Local Similarity 56.7%; Pred. No. 0.26;
Matches 76; Conservative 0; Mismatches 59; Indels 0; Gaps 0;

FILE REFERENCE: 05394.0011-00000
CURRENT APPLICATION NUMBER: US/10/802,796
CURRENT FILING DATE: 2004-03-18
PRIOR APPLICATION NUMBER: US/09/673,476
PRIOR FILING DATE: 2002-03-29
PRIOR APPLICATION NUMBER: PCT/IB99/00740
PRIOR FILING DATE: 1999-04-16
PRIOR APPLICATION NUMBER: 09/060,756
PRIOR FILING DATE: 1998-04-16
NUMBER OF SEQ ID NOS: 743
SOFTWARE: PatentIn Ver. 2.2
SEQ ID NO 427
LENGTH: 346
TYPE: DNA
ORGANISM: Mycobacterium tuberculosis
FEATURE:
NAME/KEY: modified_base
LOCATION: (188)
OTHER INFORMATION: a, t, c or g
FEATURE:
NAME/KEY: modified_base
LOCATION: (226)
OTHER INFORMATION: a, t, c or g
US-10-802-796-427

Query Match      0.6%; Score 40.4; DB 9; Length 5558;
Best Local Similarity 54.8%; Pred. No. 0.8;
Matches 80; Conservative 0; Mismatches 66; Indels 0; Gaps 0;

Qy 6835 TCAATTTATCGGCATCTTATCCAAAGCTTTGCAATGAATTCGACACATCGACAG 6894
Db 2720 TCAATATCTCCGCTCTGGTAAAGCACCAACCATGCAATGAAGCCGCTGCTGCTG 2779
Qy 6895 AAAGATGGAAGCGTGAACACAGTGAAGTTTGAGGAACTCAATCGCATAACCGAAG 6954
Db 2780 AACGCTGGAAGCGGAAATATCAGGAAGGATGGCTGAGGTGCGCCGTTATTGAAT 2839
Qy 6955 ACGGTTTATTTGTCGATGAATACAGG 6980
Db 2840 ACGGCTCTTTTGTGACGAGAACAGG 2865

RESULT 10
US-10-858-730-31
Sequence 31, Application US/10858730
Publication No. US2005025568A1
GENERAL INFORMATION:
APPLICANT: Shone, Clifford Charles
APPLICANT: Quinn, Conrad Padraig
APPLICANT: Foster, Keith Alan
APPLICANT: Chaddock, John
APPLICANT: Marks, Philip
APPLICANT: Sutton, J. Mark
APPLICANT: Stancombe, Patrick
APPLICANT: Wayne, Jonathan
TITLE OF INVENTION: Recombinant Toxin Fragments
FILE REFERENCE: 1581.0130004
CURRENT APPLICATION NUMBER: US/11/077,550
CURRENT FILING DATE: 2005-03-11
PRIOR APPLICATION NUMBER: 10/241,596
PRIOR FILING DATE: 2002-09-12
PRIOR APPLICATION NUMBER: 09/255,829
PRIOR FILING DATE: 1999-02-23
PRIOR APPLICATION NUMBER: PCT/GB97/02273
PRIOR FILING DATE: 1997-08-22
PRIOR APPLICATION NUMBER: 08/782,893
PRIOR FILING DATE: 1996-12-27
PRIOR APPLICATION NUMBER: GB9625996.5
PRIOR FILING DATE: 1996-12-13
PRIOR APPLICATION NUMBER: GB9617671.4
PRIOR FILING DATE: 1996-08-23
NUMBER OF SEQ ID NOS: 179
SOFTWARE: PatentIn version 3.1
SEQ ID NO 137
LENGTH: 5558
TYPE: DNA
ORGANISM: Clostridium botulinum
US-11-077-550-137
```

APPLICANT: Bailey, Richard B.
APPLICANT: Blomquist, Paul
APPLICANT: Doten, Reed
APPLICANT: Driggers, Edward M.
APPLICANT: Madden, Kevin T.
APPLICANT: O'Leary, Jessica
APPLICANT: O'Toole, George
APPLICANT: Trueheart, Joshua
APPLICANT: Walbridge, Michael J.
APPLICANT: Yorgev, Peter S.
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR AMINO ACID
TITLE OF INVENTION: PRODUCTION
FILE REFERENCE: 14184-030001
CURRENT APPLICATION NUMBER: US/10/858,730
PRIOR FILING DATE: 2004-06-01
PRIOR APPLICATION NUMBER: US 60/475,000
PRIOR FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: US 60/551,860
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 364
SOFTWARE: Fast-Seq for Windows Version 4.0
SEQ ID NO 31
LENGTH: 1266
TYPE: DNA
ORGANISM: Amycolatopsis mediterranei
US-10-858-730-31

Query Match 0.6%; Score 39.6; DB 1; Length 1266;
Best Local Similarity 49.5%; Pred. No. 0.68; Indels 0; Gaps 0;
Matches 102; Conservative 0; Mismatches 104; Indels 0; Gaps 0;
QY 4330 CCGCGCGCGGCACCGCGCGCTGGTGCAGGCGCATGGCGGACTGTTTCGAGGACTTGGGC 4389
DB 352 CCGAGCGGGTACCGAGGCGCTCGACAGGGGTACATCGCGCTGGTGGCGGCTTCAG 411
QY 4390 GCGAGCTGTACTGAATGCGGAAGTGAAGCAGTGAACACCGCGCAATCGATTAGC 4449
DB 412 GCGGTCCGCGAGGACACCAAGGACATCACCACGCTGGCGCGCGCTCGGACACCAACC 471
QY 4450 GCGTTCAGTTAGAGGCGGACGAGCTTCGATGCCCGCGCTGGCGCTCCATGCCGAC 4509
DB 472 GCGTCCGCTGGCGCGCGCTGAAACGCGGACGCTGCGGAGACTTACTCCGATGTGGAC 531
QY 4510 GTGGTGCATACCTACGACAAACTGCT 4535
DB 532 GGTGTGTACACGGCGGACCGCGGGT 557

RESULT 11
US-10-793-626-3998/c
Sequence 3998, Application US/10793626
Publication No. US20050255478A1
GENERAL INFORMATION:
APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
FILE REFERENCE: PU3480US
CURRENT APPLICATION NUMBER: US/10/793,626
CURRENT FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 3998
LENGTH: 3454
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: synthetic
OTHER INFORMATION: nucleic acid sequence
US-10-793-626-3998

Query Match 0.6%; Score 39.6; DB 1; Length 3454;
Best Local Similarity 54.9%; Pred. No. 1.1;

Matches 78; Conservative 0; Mismatches 64; Indels 0; Gaps 0;
QY 550 CTCGATCTCGCTCTGTGCAATGCTGCACCGGCATCGCTGATTCGATGACATT 609
DB 165 CTAATAGTCTTGTAGCAATTTGGAATGATTCATACCTATTCTTTAATTCATGATTTA 106
QY 610 CCCTCGATGATAACGCGCAGATGCTGCTGGTGCCTACCGTGCATCGCAATTTGGT 669
DB 105 CCAGCAATGATAATGACGATTACCGTAGAGGAAATTAACAAATCATAAAGTTTATGGT 46
QY 670 GAAAACGTGGCGATTCTCGCG 691
DB 45 GAATGGAAGCCATTCTTGTG 24

RESULT 12
US-11-152-747-3
Sequence 3, Application US/11152747
Publication No. US20050251881A1
GENERAL INFORMATION:
APPLICANT: E. I. du Pont de Nemours, Inc.
APPLICANT: Cheng, Qiong
APPLICANT: Tao, Luan
TITLE OF INVENTION: CAROTENOID KETOLASE GENE
FILE REFERENCE: CL-1849 US NA
CURRENT APPLICATION NUMBER: US/11/152,747
CURRENT FILING DATE: 2005-06-14
PRIOR APPLICATION NUMBER:
PRIOR FILING DATE:
NUMBER OF SEQ ID NOS: 47
SOFTWARE: Microsoft Office 97
SEQ ID NO 3
LENGTH: 1536
TYPE: DNA
ORGANISM: Deinococcus radiodurans R1
US-11-152-747-3

Query Match 0.5%; Score 38.4; DB 7; Length 1536;
Best Local Similarity 48.2%; Pred. No. 1.5;
Matches 108; Conservative 0; Mismatches 116; Indels 0; Gaps 0;
QY 4297 CATGCGCTGAGCGTGAATGGGCGTGTGTTTCGCGCGCGCGCACCGCGCGCTGGT 4356
DB 634 CACCGCTCTACCAAGGCGGCTGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCTGACC 693
QY 4357 CAGGCGATGCGCGACTGTTTCGAGGACTTGGGCGGCGGCGGCTGTTACTGAATGCCAAGTG 4416
DB 694 AAAGCCCTGCGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGTC 753
QY 4417 AGCCAGCTGGAACACCGCGGCAATCGCATTTAGCGCGCTTCAGTTAGAGGCGGCGGCGGCGG 4476
DB 754 AAGGAATTTCTGTCTAAGACGCGCAAGGCGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGG 813
QY 4477 TTCGATGCCCGCGCTGTGGCTTCCAATGCCGAGCTGGTGCATAC 4520
DB 814 TACACGCGCGCGGCGGCTGCTGGGCGTCCACATCTCGACCAC 857

RESULT 13
US-10-802-796-545
Sequence 545, Application US/10802796
Publication No. US20050250104A1
GENERAL INFORMATION:
APPLICANT: COLE, STEWART
APPLICANT: BUCHRIER-BROSCH, ROLAND
APPLICANT: GORDON, STEPHEN
APPLICANT: BILLAULT, ALAIN
TITLE OF INVENTION: A METHOD FOR ISOLATING A POLYNUCLEOTIDE OF INTEREST
TITLE OF INVENTION: FROM THE GENOME OF A MYCOBACTERIUM USING A BAC-BASED
TITLE OF INVENTION: DNA LIBRARY. APPLICATION TO THE DETECTION OF
TITLE OF INVENTION: MYCOBACTERIA.
FILE REFERENCE: 05394.0011-00000
CURRENT APPLICATION NUMBER: US/10/802,796

```
; CURRENT FILING DATE: 2004-03-18
; PRIOR APPLICATION NUMBER: US/09/673,476
; PRIOR FILING DATE: 2002-03-29
; PRIOR APPLICATION NUMBER: PCT/IB99/00740
; PRIOR FILING DATE: 1999-04-16
; PRIOR APPLICATION NUMBER: 09/060,756
; PRIOR FILING DATE: 1998-04-16
; NUMBER OF SEQ ID NOS: 743
; SOFTWARE: PatentIn Ver. 2.2
; SEQ ID NO 545
; LENGTH: 425
; TYPE: DNA
; ORGANISM: Mycobacterium tuberculosis
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (30)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (57)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (111)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (180)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (185)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (197)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (288)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (356)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (359)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (385)
; OTHER INFORMATION: a, t, c or g
; FEATURE:
; NAME/KEY: modified_base
; LOCATION: (402)
; OTHER INFORMATION: a, t, c or g
; OTHER INFORMATION: a, t, c or g
US-10-802-796-545

Query Match 0.5%; Score 38.2; DB 1; Length 425;
Best Local Similarity 58.2%; Pred. No. 0.97;
Matches 64; Conservative 0; Mismatches 46; Indels 0; Gaps 0;

Qy 5650 ATTTAGACTGGCGTTTCAGCTCACTAACATGTCGCGCGACATGTGAGAGATCCGAAA 5709
Db 3 AGTTGGGAATCGCTCTGCGCAAAACCANTATTCTGCGCGACGTTTCGAGAGGACTNTTTGA 62

Qy 5710 ATGTCGCTGTATCTGCGCGCAATCTGCGCTCGATCAGCGCGGATTACGC 5759
Db 63 ATGGACGGAATCTACCTGCGCGCGACGAGCTGGACCGATTAGCGGTACNC 112

RESULT 14

US-10-392-234A-49/c
; Sequence 49, Application US/10392234A
; Publication No. US2005025538A1
; GENERAL INFORMATION:
; APPLICANT: Pharmacia and Upjohn Corporation
; APPLICANT: Buxser, Steven
; APPLICANT: Poole, Keith
; APPLICANT: Decker, Douglas
; APPLICANT: Xiaozhi Li
; TITLE OF INVENTION: Method for Screening for acrAB Transporter Family Inhibitors
; FILE REFERENCE: 6206
; CURRENT APPLICATION NUMBER: US/10/392,234A
; CURRENT FILING DATE: 2003-03-17
; PRIOR APPLICATION NUMBER: US 60/364,935
; PRIOR FILING DATE: 2002-03-15
; NUMBER OF SEQ ID NOS: 67
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 49
; LENGTH: 1176
; TYPE: DNA
; ORGANISM: Pseudomonas aeruginosa
US-10-392-234A-49

Query Match 0.5%; Score 37.4; DB 1; Length 1176;
Best Local Similarity 48.4%; Pred. No. 2.4;
Matches 104; Conservative 0; Mismatches 111; Indels 0; Gaps 0;

Qy 972 CTTCCGCCAGGATTTGGCCAGCGCTTCAACTGCTCGAGGACCTGCCGACCGTTGCCAA 1031
Db 559 CGTCGGCGGGATGTTTCGGCAGCCACAAACGCCAGCGCGGCGCGCGCGA 500

Qy 1032 ACACACCGGTAAAGATGTGCACAGGATCAGGCGCAATCCACGCTGTACAGATGCTCGG 1091
Db 499 ACAGGGTTCAGGCAGACGAAGATCGATTGCCAGCCCTGCCAGTCAGAGCGGCCCGG 440

Qy 1092 TGCTGACGGCGCGAAACGTCCTGCGCGATCACCTGCGCAGCGCAGATCGACACCTTGC 1151
Db 439 CCACGGGGGCGAGGATCGGGCCAGGCCCATCACGAGCATCAACTGGGAAAACGCTTGG 380

Qy 1152 CTGCGCTCGCATCGCGGATCGCCACTCGCCAAAT 1186
Db 379 CGGCGCGGATCGGATCGCACAGGTACGACCACT 345

RESULT 15

US-11-054-385-3
; Sequence 3, Application US/11054385
; Publication No. US20050257291A1
; GENERAL INFORMATION:
; APPLICANT: MIZUTANI, Masako
; APPLICANT: TANAKA, Yoshikazu
; APPLICANT: KUSUMI, Takaaki
; APPLICANT: SAITO, Kazuki
; APPLICANT: YAMAZAKI, Mami
; APPLICANT: ZHIZHONG, Gong
; TITLE OF INVENTION: GENES ENCODING PROTEINS HAVING TRANSGLYCOSYLATION
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